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North Carolina MEDICAL JOURNAL

The Official Journal of the NORTH CAROLINA MEDICAL SOCIETY □ □ □ January 1981, Vol. 42, No. 1

Original Articles

- Childhood Burkitt-Type Lymphoma at the North Carolina Memorial Hospital** 29
Debra Gaddy, R.N., M.S.N., Seth A. Rudnick, M.D., Campbell McMillan, M.D., and Stanley Lipper, M.D.
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Editorials

- Suggestions for Authors 42
- Clinical Pharmacy—One North Carolina Perspective 43
- On Consensus 45

Correspondence

- Clinical Center Study of Young Patients with Malignancies 45
Arthur S. Levine, M.D.
- Practice Management 47

Committees & Organizations

- "Toxic Encounters of the Dangerous Kind," Committee on Accidents and Poison Prevention, North Carolina Chapter of the American Academy of Pediatrics 51

Bulletin Board

- New Members of the State Society 52
- What? When? Where? 52
- Auxiliary to the North Carolina Medical Society 53
- News Notes from the University of North Carolina-Chapel Hill School of Medicine and North Carolina Memorial Hospital 56
- News Notes from the East Carolina University School of Medicine .. 60
- News Notes from the Duke University Medical Center 63
- News Notes from the Bowman Gray School of Medicine of Wake Forest University 66
- American Academy of Family Physicians 68
- American Academy of Ophthalmology 69
- Month in Washington 70
- Classified Ads 73
- Index to Advertisers 74

1981 Leadership Conference & Legislative Reception; February 5-6, Raleigh
1981 Annual Sessions; May 7-10, Pinehurst
1981 Committee Conclave; Sept. 23-27, Southern Pines

half-life

Just one built-in advantage

Ensures smooth therapeutic effect even if a dose is missed The relatively longer half-life of Valium® (diazepam/Roche) has important clinical and pharmacological implications. Steady-state levels generally are reached within 5-7 days with no further accumulation. At this plateau, the patient benefits from the consistent, steady response you expect. Sharp blood level variations, frequently attributed to agents with a short half-life, do not appear with Valium.

Avoids sudden symptom breakthrough

Once steady-state levels are achieved, sudden reemergence of symptoms is unlikely. Diazepam and its active metabolites exhibit overlapping half-lives that are advantageous not only during therapy but especially when pharmacologic support is discontinued.

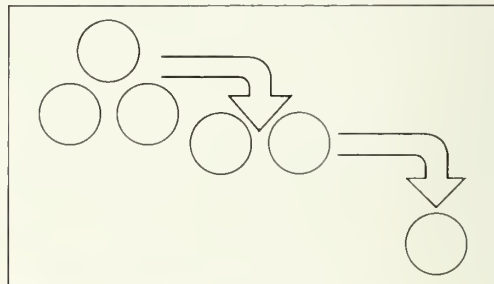
Elimination rates are gradual with Valium and thus provide a compatible adjustment interval for

the patient. In comparison, blood levels of short-acting agents with inactive metabolites decrease more rapidly and are more likely to be associated with withdrawal symptoms if medication is stopped abruptly.* With Valium unwanted effects other than drowsiness or ataxia are rare. Patients should be cautioned about driving and advised to avoid alcohol.

Tapers naturally; complements gradual dosage reduction at discontinuation

When any psychoactive medication is discontinued, it is good medical practice to gradually reduce the dosage. From your own experience you know this is rarely necessary after a short course of Valium therapy, but for patients on extended therapy, gradual reduction of dosage is advisable. This regimen, along with the self-tapering feature of Valium, provides a smooth transition to independent coping.

*Sellers EM: *Drug Metab Rev* 8(1):5-11, 1978



*in the management of
symptoms of anxiety*

Valium®
diazepam/Roche
2-mg, 5-mg, 10-mg scored tablets

*effective therapy through
efficient pharmacodynamics*

Before prescribing, please see summary of product information on next page



Valium[®]
diazepam/Roche

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Management of anxiety disorders, or short-term relief of symptoms of anxiety, symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology; spasticity caused by upper motor neuron disorders, atetosis, stiff-man syndrome; convulsive disorders (not for sole therapy).

The effectiveness of Valium (diazepam/Roche) in long-term use, that is, more than 4 months, has not been assessed by systematic clinical studies. The physician should periodically reassess the usefulness of the drug for the individual patient.

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma, may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms similar to those with barbiturates and alcohol have been observed with abrupt discontinuation, usually limited to extended use and excessive doses. Infrequently, milder withdrawal symptoms have been reported following abrupt discontinuation of benzodiazepines after continuous use, generally at higher therapeutic levels, for at least several months. After extended therapy, gradually taper dosage. Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence.

Usage in Pregnancy: Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

NORTH CAROLINA MEDICAL SOCIETY MEETINGS

PLAN
AHEAD

ANNUAL MEETING

May 7-10, 1981

Pinehurst Hotel
Pinehurst, N.C.

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September 23-27, 1981

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Southern Pines, N.C.

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February 5-6, 1981
Raleigh, N.C.



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- News Notes from the Duke University Medical Center 63
- News Notes from the Bowman Gray School of Medicine of Wake Forest University 66
- American Academy of Family Physicians 68
- American Academy of Ophthalmology 69

MONTH IN WASHINGTON 70

CLASSIFIED ADS 73

INDEX TO ADVERTISERS 74

Contents listed in *Current Contents/Clinical Practice*

Comprehensive relief for the complex cold

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High potency
multiple symptom
cold reliever

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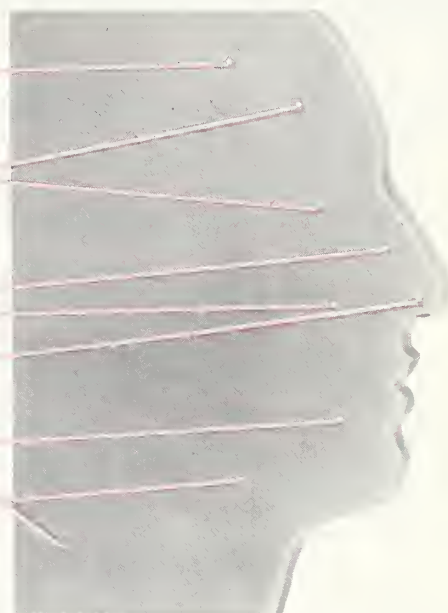
headache and
body aches

nasal and sinus
congestion

runny nose

sneezing

cough



Maximum 4-hour therapeutic doses for optimum effect

- 60 mg. pseudoephedrine HCl
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More effective overall than many other widely used preparations

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Single economical modality enhances compliance

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Extran/DM Capsules/Tablets: Each capsule/tablet contains 500 mg. acetaminophen, 30 mg. pseudoephedrine HCl, 2 mg. chlorpheniramine maleate, 10 mg. dextromethorphan HBr.

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SHE'LL GET HELP.**

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Member Child Welfare League of America. Founded 1902.

Announcing a major symposium for primary care physicians

Anxiety: the therapeutic dilemma



National authorities offer views and insights

Are minor tranquilizers overused? Is anxiety overdiagnosed? Do anti-anxiety drugs create other clinical problems? What are the alternatives?

These and other critical questions will be examined in a one-day symposium and workshop at the Tulane Medical

Center, New Orleans, on February 14, 1981. Eminent physicians will discuss aspects of treatment including (1) recognition and management of the dependence-prone patient, (2) ways to minimize tranquilizer dependency, (3) current information on the biochemistry of anxiety and (4) how it can

affect treatment modalities.

Unique interactive format offers direct participation Filmed case presentations provide source material for participant interaction — to demonstrate keys to differential diagnosis and clarify guidelines for selecting appropriate drug and non-drug therapies.

Program Topics and Faculty

| | |
|---|---|
| The Clinical Spectrum of Anxiety | Michael J. Halberstam, MD, Private Practice, Internal Medicine and Cardiology, Washington, DC; Editor, <i>Modern Medicine</i> ; Associate Clinical Professor of Medicine, George Washington University Medical Center |
| Anxiety: Etiology and Dynamics | Sidney L. Werkman, MD, Professor of Psychiatry, University of Colorado School of Medicine |
| Differential Diagnosis of Anxiety | Robert E. Rakel, MD, Professor and Head, Department of Family Practice, The University of Iowa College of Medicine |
| The Problem of Drug Dependence | David H. Mielke, MD, Associate Professor of Psychiatry, Tulane University School of Medicine |
| Pharmacology and Pharmacokinetics of the Minor Tranquilizers | Leo E. Hollister, MD, Professor of Medicine, Psychiatry and Pharmacology, Veterans Administration Medical Center and Stanford University School of Medicine |
| Benzodiazepine Receptors | Solomon H. Snyder, MD, Chairman & Professor, Department of Neuroscience, Distinguished Service Professor of Neuroscience, Psychiatry and Pharmacology, The Johns Hopkins University School of Medicine |
| Management Approaches to the Patient With Anxiety | Julius Michaelson, MD, Past President, American Academy of Family Physicians |
| Tranquilizers: Guidelines for Appropriate Use | Robert E. Rakel, MD, Professor and Head, Department of Family Practice, The University of Iowa College of Medicine |
| Non-Drug Treatment Alternatives | Sidney L. Werkman, MD, Professor of Psychiatry, University of Colorado School of Medicine |
| Other members of the symposium faculty, from the Tulane University School of Medicine, include John W. Goethe, MD and Daniel K. Winstead, MD. | |

Eight credit hours in Category 1 for PRA/AMA, Prescribed hours by AAFP, Category 2-D of AOA and/or Formal Learning cognates of ACOG will be awarded.

Anxiety: The Therapeutic Dilemma is being produced in collaboration with Tulane University School of Medicine, Department of Psychiatry and Neurology, by M.E.D. Communications, under an educational grant from Abbott Laboratories.

Office of Continuing Education, Tulane Medical Center,
1430 Tulane Avenue, New Orleans, Louisiana 70112.

Please send full information about the symposium
Anxiety: The Therapeutic Dilemma.

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WANTED: Physicians who prefer medicine to paperwork.

We are looking for dedicated physicians, physicians who want to be, not salesmen, accountants, and lawyers, but physicians. For such physicians, we offer a practice that is practically perfect, where in almost no time you experience a spectrum of cases some physicians do not encounter in a lifetime, where you work without worrying whether the patient can pay or you will be paid, and where you prescribe, not the least care, nor the most defensive care, but the best care.

If that is what you want, join the physicians who have joined the Army. Army Medicine is the perfect setting for the dedicated physician. Army Medicine provides wide-ranging

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Army Medicine offers fully accredited residencies in virtually every specialty. Army residents generally receive higher compensation and greater responsibility than do their civilian counterparts and score higher on specialty examinations.

Army Medicine offers an attractive alternative to civilian practice. As an Army Officer, you receive substantial compensation, extensive annual paid vacation, a remarkable retirement plan, and the freedom to practice without endless insurance forms, malpractice premiums, and cash flow worries.

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Some of our better known products are Ru-Tuss® and Ru-Vert®. This advertisement highlights three other products particularly useful for the family.

F-E-P CREME®

TWIN-K®

SU-TON®





For the Majority of Steroid-Responsive
Dermatoses* Seen in Family Practice

F-E-P CREME®

(Iodochlorhydroxyquin — Pramoxine HCl — Hydrocortisone)

The 4 in 1 Corticosteroid Cream

Anti-inflammatory, antifungal, antibacterial action and, uniquely, a topical anesthetic for immediate relief of the itching or burning that frequently accompanies skin problems. One size (1/2 ounce), one strength for ease of prescription.



*This drug has been evaluated as possibly effective for these indications. See prescribing information on last page of this advertisement.

For Potassium Supplementation

TWIN-K®

Each 15 ml supplies 20 mEq of potassium as a combination of potassium gluconate (15 mEq) and potassium citrate (5 mEq) in a sorbitol base.

The good tasting potassium supplement

- Designed for prophylactic use with diuretics and adrenocorticoids.
- Pleasant taste and convenient b.i.d. dosage aid patient compliance.
- Avoids the problems of a chloride salt.

"The organic salt can be given as a liquid without producing significant gastric symptoms and without an untoward effect on the mucosa of the small intestine."¹



Note: In hypokalemic hypochloremic alkalosis, potassium chloride supplementation may be preferred.

¹ Beeson-McDermott, Textbook of Medicine, 15th Ed. 1979, W.B. Saunders Co., Philadelphia, p. 1959

See prescribing information on last page of this advertisement.

for the Geriatric Patient

SU-TON®

Liquid Tonic

A pleasant tasting prescription tonic containing iron, vitamins, minerals, an analeptic and 18% alcohol. Ideal for those who may benefit from vitamin deficiency prevention. Just one tablespoon before each meal.

Each 45 ml (3 tablespoonfuls) contains:

| | |
|--|--------|
| Hydroxycobalamin (as Cyanocobalamin)..... | 30 mg |
| Niacin..... | 50 mg |
| Vitamin B-1..... | 10 mg |
| Vitamin B-2..... | 5 mg |
| Vitamin B-6..... | 1 mg |
| Vitamin B-12..... | 3 mcg |
| Choline..... | 100 mg |
| Inositol..... | 50 mg |
| Manganese (as Manganese Sulfate)..... | 1 mg |
| Magnesium (as Magnesium Sulfate)..... | 2 mg |
| Iron (as Zinc Sulfate)..... | 1 mg |
| Iron (as Ferric Pyrophosphate, Soluble)..... | 22 mg |
| Alcohol..... | 18% |

See prescribing information on last page of this advertisement.

Please send me patient starter samples of:

☐ F-E-P CREME®

☐ TWIN-K®

☐ SU-TON®

Name _____

Street Address _____

City _____ State _____ Zip _____

F-E-P CREME®

DESCRIPTION: F-E-P Creme is a topical water soluble anti-inflammatory, anesthetic, preparation intended for treatment of various inflammatory skin disorders. The drug contains the following active ingredients:

| | |
|-------------------------|------|
| Iodochlorhydroxyquin | 3.0% |
| Pramoxine Hydrochloride | 0.5% |
| Hydrocortisone | 1.0% |

INDICATIONS AND USAGE:

Based on a review of this drug by the National Academy of Sciences-National Research Council and/or other information, FDA has classified the indications as follows, "Possibly effective": Contact or atopic dermatitis; impetiginized eczema; nummular eczema; infantile eczema; endogenous chronic infectious dermatitis; stasis dermatitis; pyoderma, nuchal eczema and chronic eczematoid otitis externa; acne urticata; localized or disseminated neurodermatitis; lichen simplex chronicus; anogenital pruritus (vulvae, scroti, ani); folliculitis; bacterial dermatoses; mycotic dermatoses such as tinea (capitis, cruris, corporis, pedis); moniliasis; intertrigo. Final classification on the less-than-effective indications requires further investigation.

Pramoxine Hydrochloride promptly relieves pain and itch. This compound may be used safely on the skin of those patients sensitive to the "caine" type local anesthetics.

CONTRAINDICATIONS: Hypersensitivity to F-E-P Creme, or any of its ingredients or related compounds; lesions of the eye; tuberculosis of the skin; most viral skin lesions (including herpes simplex, vaccinia and varicella).

WARNINGS: This product is not for ophthalmic use. In the presence of systemic infections, appropriate antibiotics should be used.

USE IN PREGNANCY: Topical steroids have not been reported to have an adverse effect on pregnancy. However, fetal abnormalities have been produced in pregnant laboratory animals that have been exposed to large doses of topical corticosteroids. Drugs of this class should not be used extensively during pregnancy.

PRECAUTIONS: F-E-P Creme may be irritating to the skin in some patients. If irritation occurs discontinue therapy. Staining of clothes or hair may also occur with use of this preparation. Although systemic toxicity has not been reported with this drug, adrenal pituitary suppression is possible, especially when the drug is used extensively or kept under an occlusive dressing for a prolonged period. Iodochlorhydroxyquin can be absorbed through the skin and interfere with thyroid function tests. Therapy with this preparation should stop at least a month before performance of these tests.

The ferric chloride test for phenylketonuria (PKU) can be positive if F-E-P Creme is on the diaper or in the urine. Prolonged use of this drug may result in an overgrowth of nonsusceptible organisms requiring appropriate therapy.

ADVERSE REACTIONS: Skin rash or hypersensitivity may occur following topical application. The following local adverse reactions have been reported with topical corticosteroids, especially under occlusive dressings: burning, itching, irritation, dryness, folliculitis, hypertrichosis, acneiform eruptions, hypopigmentation, perioral dermatitis, allergic contact dermatitis, maceration of the skin, secondary infection, skin atrophy, striae, miliaria. Discontinue therapy if untoward reactions occur.

DOSE AND ADMINISTRATION: Apply a thin layer of the drug to affected parts 3-4 times daily.

Note:

1. F-E-P Creme is distributed with 3.0% iodochlorhydroxyquin for use when antibacterial/antifungal activity is desired.

2. F-E-P Creme (Plain) is the regular formulation, but without Iodochlorhydroxyquin.

Both of these preparations contain pramoxine hydrochloride, which has topical anesthetic properties. Pramoxine is not chemically related to benzoic acid or amide type topical anesthetics. Patients can tolerate pramoxine although they may be sensitive to other "caine" type of topical or local anesthetics.

HOW SUPPLIED:

| | |
|-----------------------|-----------------------|
| F-E-P Creme | F-E-P Creme Plain |
| ½ ounce (15 gm) tubes | ½ ounce (15 gm) tubes |
| NDC 0524-0026-51 | NDC 0524-0025-51 |

CAUTION: Federal law prohibits dispensing without a prescription.

TWIN-K®

DESCRIPTION: Each 15 milliliter (tablespoonful) supplies 20 mEq of elemental potassium as a combination of potassium gluconate (15 mEq) and potassium citrate (5 mEq) in a sorbitol base with flavoring.

INDICATIONS AND USAGE: For use as oral potassium therapy in the prevention or treatment of hypokalemia which may occur secondary to diuretic or corticosteroid administration. It may be used in the treatment of cardiac arrhythmias due to digitalis intoxication.

CONTRAINDICATIONS: Severe renal impairment with oliguria or azotemia, untreated Addison's disease, adynamia episodica hereditaria, acute dehydration, heat cramps and hyperkalemia from any cause. This product should not be used in patients receiving aldosterone antagonists or triamterene.

WARNINGS: TWIN-K (potassium gluconate and potassium citrate) is a palatable form of oral potassium replacement. It appears that little if any potassium gluconate-citrate penetrates as far as the jejunum or ileum where enteric coated potassium chloride lesions have been noted. Excessive, undiluted doses of TWIN-K may cause a saline laxative effect.

To minimize gastrointestinal irritation it is recommended that TWIN-K be taken with meals or diluted with water or fruit juice. A tablespoonful (15 ml) in 8 ounces of water is approximately isotonic. More than a single tablespoonful should not be taken without prior dilution.

PRECAUTIONS: Potassium is a major intracellular cation which plays a significant role in body physiology. The serum level of potassium is normally 3.8-5.0 mEq/liter. While the serum or plasma level is a poor indicator of total body stores, a plasma or serum level below 3.5 mEq/liter is considered to be indicative of hypokalemia.

The most common cause of hypokalemia is excessive loss of potassium in the urine. However, hypokalemia can also occur with vomiting, gastric drainage and diarrhea.

Usually a potassium deficiency can be corrected by oral administration of potassium supplements. With normal kidney function it is difficult to produce potassium intoxication by oral administration. However, potassium supplements must be administered with caution since usually the exact amount of the deficiency is not accurately known. Checks on the patient's clinical status and periodic E.K.G. and/or serum potassium levels should be made. High serum potassium levels may cause death by cardiac depression, arrhythmias or arrest.

In patients with hypokalemia who also have alkalosis and a chloride deficiency (hypokalemic hypochloremic alkalosis), there will be a requirement for chloride ions. TWIN-K is not recommended for use in these patients.

ADVERSE REACTIONS: Symptoms of potassium intoxication include paresthesias of the extremities, flaccid paralysis, listlessness, mental confusion, weakness and heaviness of the legs, fall in blood pressure, cardiac arrhythmias and heart block. Hyperkalemia may exhibit the following electrocardiographic abnormalities: disappearance of the P wave, widening and slurring of the QRS complex, changes of the ST segment and tall peaked T waves.

TWIN-K taken on an empty stomach in undiluted doses larger than 30 ml can produce gastric irritation with nausea, vomiting, diarrhea, and abdominal discomfort.

OVERDOSAGE: The administration of oral potassium supplements to persons with normal kidney function rarely causes serious hyperkalemia. However, if the renal excretory function is impaired potentially fatal hyperkalemia can result. It is important to note that hyperkalemia is usually asymptomatic and may be manifested only by an increased serum potassium concentration with E.K.G. changes.

Treatment measures include:

1. Elimination of potassium containing drugs or foods.
2. Intravenous administration of 300 to 500 ml/hr of a 10% dextrose solution containing 10-20 units of crystalline insulin per 1000 milliliters.
3. Correction of acidosis.
4. Use of exchange resins or peritoneal dialysis.

In treating hyperkalemia it should be noted that patients stabilized on digitalis can develop digitalis toxicity when the serum potassium concentration is changed too rapidly.

DOSE AND ADMINISTRATION: The usual adult dosage is one tablespoonful (15 ml) in 6-8 fluid ounces of water or fruit juice,

two to four times a day. This will supply 40 to 80 elemental potassium. The usual preventative dose of potassium is 20 mEq per day while therapeutic doses range from 30 to 100 mEq per day. Because of the potential for gastrointestinal irritation, undiluted large single doses (30 ml or more) are to be avoided.

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HOW SUPPLIED: Pint bottles. NDC 0524-0021-16

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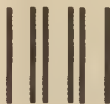
OVERDOSAGE: Signs and symptoms of acute overdose are due principally from overstimulation of the central nervous system and from excessive vasodilatation with resultant autonomic nervous system imbalance. The symptoms may include the following: vomiting, agitation, tremors, hyperreflexia, tingling, confusion, hallucinations, headache, hyperreflexia, tachycardia. Treatment consists of appropriate supportive measures. If signs and symptoms are not too severe and the patient is conscious, gastric evacuation may be accomplished by induction of emesis or gastric lavage.

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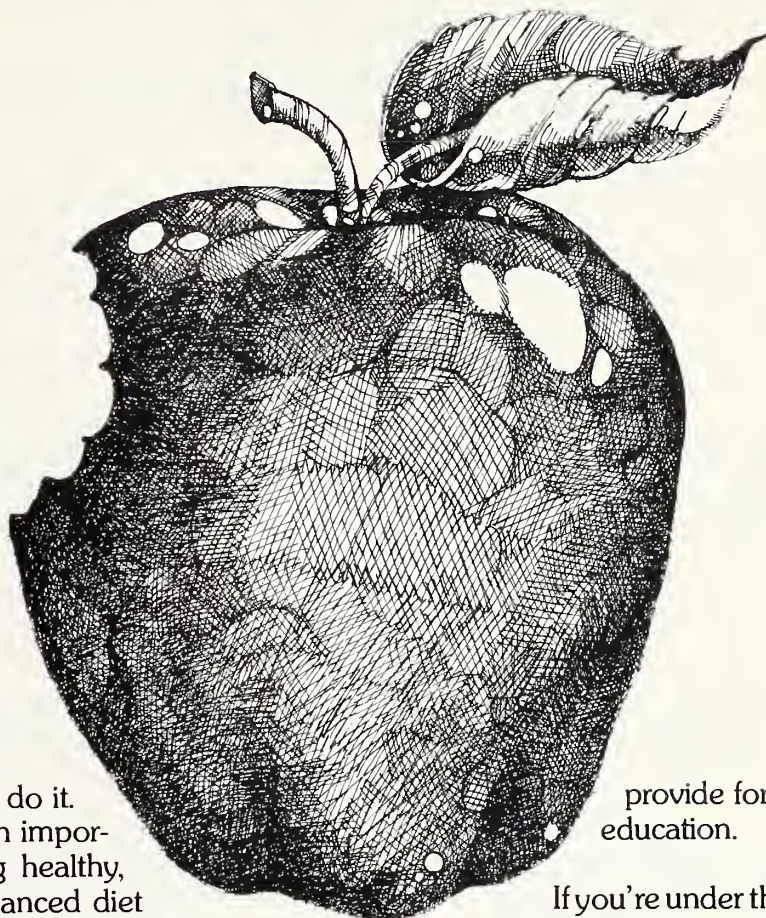
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3. Leonards, J.R. and Levy, G.: Biopharmaceutical aspects of aspirin-induced gastrointestinal blood loss in man. *J. Pharm. Sci.* 58:1277, 1969.
4. Salicylate Blood Level Study: crossover design; 9 subjects. Leonards, J.R. and Levy, G.: Effect of pharmaceutical formulation on gastrointestinal bleeding from aspirin tablets, *Arch. Intern. Med.* 129:457, 1972.
5. Bristol-Myers test method designed to evaluate the acid-neutralizing capacity of buffered aspirin preparations: 2 five-grain Neolin tablets; 2 Ascriptin tablets; 2 Ascriptin A/D tablets. Each product stirred for 15 minutes in 50 cc. of 0.1N HCl, at 25 °C. and back titrated with NaOH to pH 2.8.

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*PATIENT CARE Magazine—Outlook 1977 "Face-Off: Cost Containment vs. Chaos," January 1, 1977

Lyle CB, et al. "Practice habits in a group of eight internists," ANNALS OF INTERNAL MEDICINE 84 (May 1976), 594-601.

Schroeder SA, et al. "Use of laboratory tests and pharmaceuticals: variation among physicians and effect of cost audit on subsequent use," JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION 225 (Aug. 20, 1973), 969-73.



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PRESIDENT'S NEWSLETTER

NORTH CAROLINA MEDICAL SOCIETY

NO. 8

JANUARY 1981

Greetings:

The ending of the year provides an excellent time for reflection with evaluation of our goals and achievements, both personal and professional. The New Year affords another opportunity for planning and future accomplishment.

At the direction of the Executive Council in September, planning is in place to carry out a management study of the State Society Headquarters functions.

An ad hoc committee composed of Drs. David Bruton, Maxton Mauney, Eugene Mayer, Edwin Monroe, and chaired by Past President Jesse Caldwell will evaluate the future legal requirements of the Medical Society. They will report their recommendations to the Executive Council.

I have considered these activities. I felt there were other areas of the State Medical Society that individual members and the component county societies might want to consider and to possibly propose changes to the House of Delegates. For example, the ten districts of the Medical Society have existed for several decades and functioned very well. The many individuals who have served have provided most excellent representation. In 1950 with 2300 members, there were ten councilors representing these districts. In 1980 with 5800 members, the same districts exist with the ten councilors to represent these numbers. In this growth period, the North Carolina AMA Delegates have increased from three to five. Reapportionment occurs in our national legislature each decade based on the census. Should we consider redistricting or some additional representation with the hope of achieving improved representation?

Is the present form of the election of a Nominating Committee, for staggered three-year terms, the best way to identify the most able nominees to serve you? I certainly hope that you feel that it has worked well in the past for you and the Society. I am not advocating change; only raising questions for your consideration. This is your Society and can only be as good as your participation and direction will allow it.

In the month of January 1981, I am committed to-date to meetings of committees, county medical societies, etc., which will require 50 hours out of Winston-Salem and 1500 miles of travel. This does not include time in the office committed to Medical Society activities. I point this out only to suggest that in the future consideration may again need to be given to paying the President or even to the consideration of establishing a physician executive vice-president position. To be affective and to represent the interest of the public and the profession, an even greater commitment of individual time and effort is necessary from the leadership. The next several months will undoubtedly be more demanding and busy with the Legislature in session. The able leadership of John Dees, Chairman of the

Legislative Committee, the support of the Legislative Committee and the Legislative Contact Physicians is a labor of love and individual commitment. We need all of this but more! What is the best method to achieve?

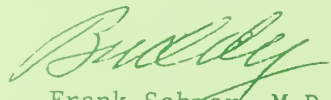
The question of continuing medical education (CME), of course, is a continuing area of concern. The three-year cycle ending December 31, 1980, reveals 2613 members of 3491 members of this cycle have completed their CME membership requirements. 388 physicians additionally have submitted partially completed reports. 490 physicians have not reported any CME to-date. These will be discussed by the Committee on Medical Education January 14, and they will make recommendations to the Executive Council at the February meeting. Your House of Delegates passed the CME requirement for membership in May 1974. This has been supported by the vast majority of the Society. There has been significant discussion at many levels regarding the value of CME requirements. Some states require this for a licensure. The State Nurses' Association President requested the Sunset Commission, at the Board of Medical Examiners' revision hearing, that CME be made a requirement for licensure in North Carolina! One state has discontinued all CME requirements. I have supported CME and continue to believe it to be helpful. After six years in North Carolina, is it time for reevaluation, reaffirmation, or repeal of CME requirements?

I am concerned with an attitude that I have received both nationally and locally. Following the November 4th election, this attitude has emerged that all of our concerns and problems will disappear January 20th when President-Elect Reagan assumes the Presidency. I would urge a realistic appraisal! Our economy, the hostage situation, national defense, energy crisis, etc., are all higher priority items. It certainly would seem national health insurance is unlikely to be a concern. Other problems, however, will continue. The AMA House of Delegates voted to continue opposition to the Health Planning Act (HSA's). A reversal of the previous AMA position on PSRO occurred by a vote of 104 to 100 with the AMA official position now in opposition to PSRO. The Secretary Designate of the Dept. of Health & Human Services, former Senator Schweiker, has previously supported the PSRO program. The physician heading the Reagan medical transition team suggested a transfer to states of this type of program management. Need I remind you of the present Medicaid Program in North Carolina? Should the new administration decide to abandon the PSRO program, I would point out the original review regulations regarding Medicare and Medicaid remain in effect. Be assured with an expenditure in excess of \$60 billion for federal health programs, some type of audit will continue. I believe that this is best done by physicians.

Please remember the Legislative Reception will be held in Raleigh on February 5. The members of the North Carolina Legislature will be guests of the Society. You are all invited. If you desire to attend, please contact Mr. Tom Adams at the Society Headquarters. The annual excellent Leadership Conference, sponsored by the Communications Committee under the excellent leadership of Liz Kanof, will begin at the Velvet Cloak Inn the next morning, February 6. Please plan to attend.

I wish for all of you every happiness and good health in the coming year and solicit your continued direction and support. With kindest personal regards, I am

Sincerely,


Frank Sohmer, M.D.
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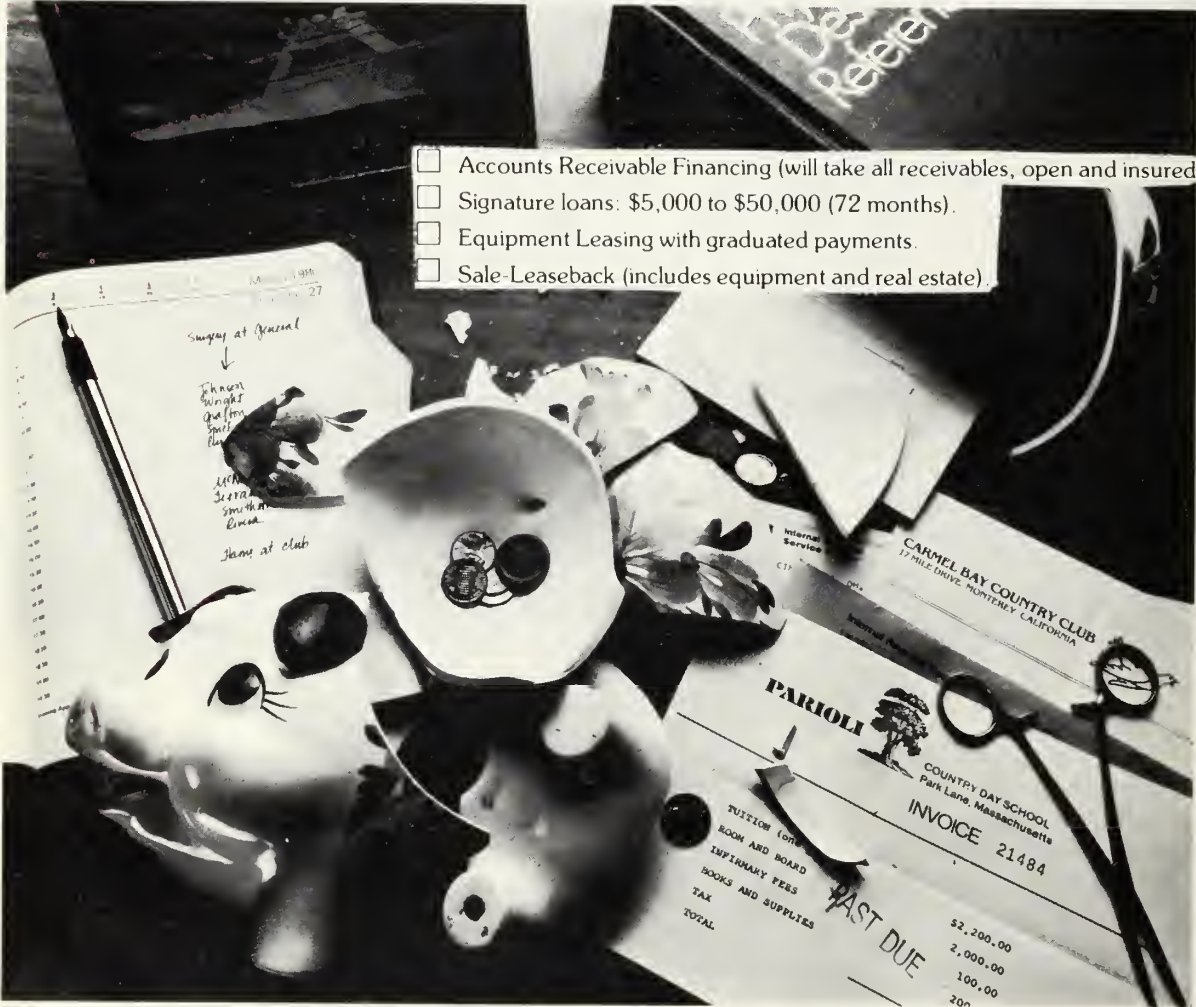
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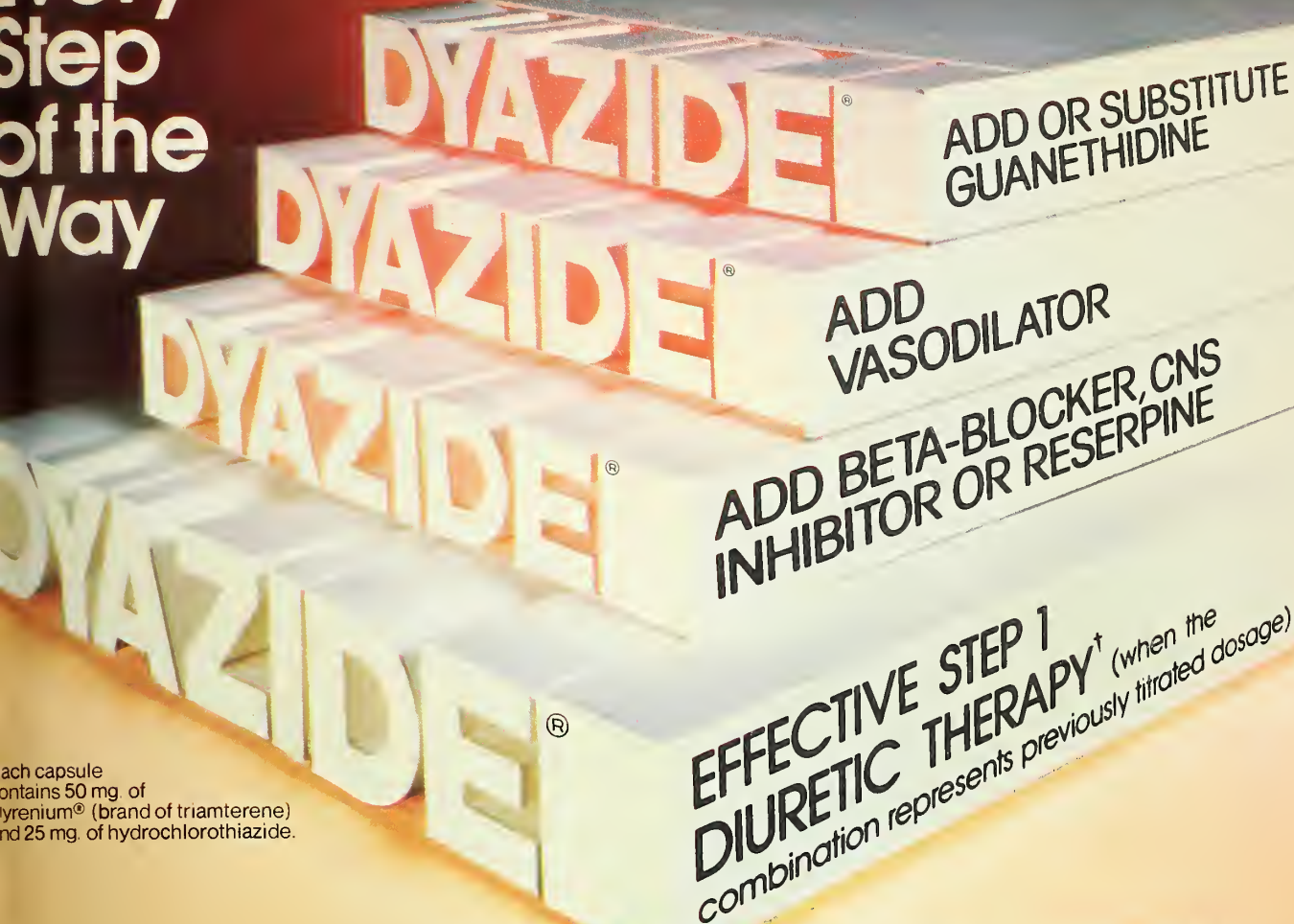
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Serum K^+ and BUN should be checked periodically (see Warnings).

Before prescribing, see complete prescribing information in SK&F Co. literature or PDR. A brief summary follows:

WARNING

This drug is not indicated for initial therapy of edema or hypertension. Edema or hypertension requires therapy titrated to the individual. If this combination represents the dosage so determined, its use may be more convenient in patient management. Treatment of hypertension and edema is not static, but must be reevaluated as conditions in each patient warrant.

Contraindications: Further use in anuria, progressive renal or hepatic dysfunction, hyperkalemia. Pre-existing elevated serum potassium. Hypersensitivity to either component or other sulfonamide-derived drugs.

Warnings: Do not use potassium supplements, dietary or otherwise, unless hypokalemia develops or dietary intake of potassium is markedly impaired. If supplementary potassium is needed, potassium tablets should not be used. Hyperkalemia can occur, and has been associated with cardiac irregularities. It is more likely in the severely ill, with urine volume less than one liter/day, the elderly and diabetics with suspected or confirmed renal insufficiency. Periodically, serum K^+ levels should be determined. If hyperkalemia develops, substitute a thiazide alone, restrict K^+ intake. **Associated widened QRS complex or arrhythmia requires prompt additional therapy.** Thiazides cross the placental barrier and appear in cord blood. Use in pregnancy requires weighing anticipated benefits against possible hazards, including fetal or neonatal jaundice, throm-

bocytopenia, other adverse reactions seen in adults. Thiazides appear and triamterene may appear in breast milk. If their use is essential, the patient should stop nursing. Adequate information on use in children is not available. Sensitivity reactions may occur in patients with or without a history of allergy or bronchial asthma. Possible exacerbation or activation of systemic lupus erythematosus has been reported with thiazide diuretics.

Precautions: Do periodic serum electrolyte determinations (particularly important in patients vomiting excessively or receiving parenteral fluids). Periodic BUN and serum creatinine determinations should be made, especially in the elderly, diabetics or those with suspected or confirmed renal insufficiency. Watch for signs of impending coma in severe liver disease. If spironolactone is used concomitantly, determine serum K^+ frequently; both can cause K^+ retention and elevated serum K^+ . Two deaths have been reported with such concomitant therapy (in one, recommended dosage was exceeded, in the other serum electrolytes were not properly monitored). Observe regularly for possible blood dyscrasias, liver damage, other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving triamterene, and leukopenia, thrombocytopenia, agranulocytosis, and aplastic anemia have been reported with thiazides. Triamterene is a weak folic acid antagonist. Do periodic blood studies in cirrhotics with splenomegaly. Anti-hypertensive effect may be enhanced in post-sympathectomy patients. Use cautiously in surgical patients. The following may occur: transient elevated BUN or creatinine or both, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), hyperuricemia and gout, digitalis intoxication (in hypokalemia), decreasing alkali reserve with

possible metabolic acidosis. 'Dyazide' interferes with fluorescent measurement of quinidine. Hypokalemia, although uncommon, has been reported. Corrective measures should be instituted cautiously and serum potassium levels determined. Discontinue corrective measures and 'Dyazide' should laboratory values reveal elevated serum potassium. Chloride deficit may occur as well as dilutional hyponatremia. Serum PBI levels may decrease without signs of thyroid disturbance. Calcium excretion is decreased by thiazides. 'Dyazide' should be withdrawn before conducting tests for parathyroid function.

Diuretics reduce renal clearance of lithium and increase the risk of lithium toxicity.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth, anaphylaxis, rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting, diarrhea, constipation, other gastrointestinal disturbances. Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and, rarely, allergic pneumonitis have occurred with thiazides alone. Triamterene has been found in renal stones in association with other usual calculus components.

Supplied: Bottles of 1000 capsules; Single Unit Packages (unit-dose) of 100 (intended for institutional use only); in Patient-Pak™ unit-of-use bottles of 100.

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You can expect rapid relief of a broad range of symptoms

With Limbitrol, patients often improve within a week. Not only is insomnia relieved, but you will often see early relief of agitation, psychic and somatic anxiety, anorexia and feelings of guilt or worthlessness. This early response encourages patients to stay in therapy.

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When you choose Limbitrol over a phenothiazine-containing product, you minimize the risk of tardive dyskinesia — now associated even with low dose, short-term phenothiazine therapy.^{1,2} You also reduce the possibility of other extrapyramidal side effects, which occur in approximately 30% of patients receiving phenothiazines.³⁻⁵ In contrast, the reported incidence of these disturbing reactions with Limbitrol or either of its compo-

nents alone is rare. (For a complete list of side effects reported with Limbitrol, please consult full disclosure.)

References: 1. Paulson GW. *NY State J Med* 79: 193-195, Feb 1979. 2. Hollister LE. Antipsychotic medications and the treatment of schizophrenia, chap. 9, in *Psychopharmacology: From Theory to Practice*, edited by Borchos J. et al. New York, Oxford University Press, 1977 pp 134, 145. 3. Domino EF. Antipsychotics phenothiazines, thioxanthenes, butyrophenones and rauwolfia alkaloids, chap. 25, in *Drill's Pharmacology in Medicine*, ed. 4, edited by DiPalma JR. New York, McGraw-Hill Book Company, 1971, p. 476. 4. Sovner R, DiMasi J. Extrapyramidal syndromes and other neurological side effects of psychotropic drugs, in *Psychopharmacology: A Generation of Progress*, edited by Lipton MA, DiMascio A, Kilham KF. New York, Raven Press, 1978, p. 1021. 5. Donlon PT, Stenson RL. *Dis Nerv Syst* 37: 629-635, Nov 1976.

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Limbitrol®^{IV}

Tablets 5-12.5 each containing 5 mg clordiazepoxide and 12.5 mg amitriptyline
(as the hydrochloride salt)

Tablets 10-25 each containing 10 mg clordiazepoxide and 25 mg amitriptyline
(as the hydrochloride salt)



Efficacy without a phenothiazine

Please see summary of product information on following page.

LIMBITROL® TABLETS Tranquilizer—Antidepressant

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Relief of moderate to severe depression associated with moderate to severe anxiety
Contraindications: Known hypersensitivity to benzodiazepines or tricyclic antidepressants. Do not use with monoamine oxidase (MAO) inhibitors or within 14 days following discontinuation of MAO inhibitors since hyperpyretic crises, severe convulsions and deaths have occurred with concomitant use, then initiate cautiously, gradually increasing dosage until optimal response is achieved. Contraindicated during acute recovery phase following myocardial infarction.

Warnings: Use with great care in patients with history of urinary retention or angle-closure glaucoma. Severe constipation may occur in patients taking tricyclic antidepressants and anticholinergic-type drugs. Closely supervise cardiovascular patients (Arrhythmias, sinus tachycardia and prolongation of conduction time reported with use of tricyclic antidepressants, especially high doses. Myocardial infarction and stroke reported with use of this class of drugs.) Caution patients about possible combined effects with alcohol and other CNS depressants and against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving).

Usage in Pregnancy: Use of minor tranquilizers during the first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.

Since physical and psychological dependence to chloridazepoxide have been reported rarely, use caution in administering Limbitrol to addiction-prone individuals or those who might increase dosage, withdrawal symptoms following discontinuation of either component alone have been reported (nausea, headache and malaise for amitriptyline, symptoms [including convulsions] similar to those of barbiturate withdrawal for chloridazepoxide).

Precautions: Use with caution in patients with a history of seizures, in hyperthyroid patients or those on thyroid medication, and in patients with impaired renal or hepatic function. Because of the possibility of suicide in depressed patients, do not permit easy access to large quantities in these patients. Periodic liver function tests and blood counts are recommended during prolonged treatment. Amitriptyline component may block action of guanethidine or similar antihypertensives. Concomitant use with other psychotropic drugs has not been evaluated.

Sedative effects may be additive. Discontinue several days before surgery. Limit concomitant administration of ECT to essential treatment. See Warnings for precautions about pregnancy.

Limbitrol should not be taken during the nursing period. Not recommended in children under 12. In the elderly and debilitated, limit to smallest effective dosage to preclude ataxia, oversedation, confusion or anticholinergic effects.

Adverse Reactions: Most frequently reported are those associated with either component alone: drowsiness, dry mouth, constipation, blurred vision, dizziness and bloating. Less frequently occurring reactions include vivid dreams, impotence, tremor, confusion and nasal congestion. Many depressive symptoms including anorexia, fatigue, weakness, restlessness and lethargy have been reported as side effects of both Limbitrol and amitriptyline. Granulocytopenia, jaundice and hepatic dysfunction have been observed rarely.

The following list includes adverse reactions not reported with Limbitrol but requiring consideration because they have been reported with one or both components or closely related drugs.

Cardiovascular: Hypotension, hypertension, tachycardia, palpitations, myocardial infarction, arrhythmias, heart block, stroke.

Psychiatric: Euphoria, apprehension, poor concentration, delusions, hallucinations, hypomania and increased or decreased libido.

Neurologic: Incoordination, ataxia, numbness, tingling and paresthesias of the extremities, extrapyramidal symptoms, syncope, changes in EEG patterns.

Anticholinergic: Disturbance of accommodation, paralytic ileus, urinary retention, dilatation of urinary tract.

Allergic: Skin rash, urticaria, photosensitization, edema of face and tongue, pruritus.

Hematologic: Bone marrow depression including agranulocytosis, eosinophilia, purpura, thrombocytopenia.

Gastrointestinal: Nausea, epigastric distress, vomiting, anorexia, stomatitis, peculiar taste, diarrhea, black tongue.

Endocrine: Testicular swelling and gynecomastia in the male, breast enlargement, galactorrhea and minor menstrual irregularities in the female and elevation and lowering of blood sugar levels.

Other: Headache, weight gain or loss, increased perspiration, urinary frequency, mydriasis, jaundice, alopecia, parotid swelling.

Overdosage: Immediately hospitalize patient suspected of having taken an overdose. Treatment is symptomatic and supportive. I.V. administration of 1 to 3 mg physostigmine salicylate has been reported to reverse the symptoms of amitriptyline poisoning. See complete product information for manifestation and treatment.

Dosage: Individualize according to symptom severity and patient response. Reduce to smallest effective dosage when satisfactory response is obtained. Larger portion of daily dose may be taken at bedtime. Single h.s. dose may suffice for some patients. Lower dosages are recommended for the elderly.

Limbitrol 10-25, initial dosage of three to four tablets daily in divided doses, increased up to six tablets or decreased to two tablets daily as required. Limbitrol 5-12.5, initial dosage of three to four tablets daily in divided doses, for patients who do not tolerate higher doses.

How Supplied: White, film-coated tablets, each containing 10 mg chloridazepoxide and 25 mg amitriptyline (as the hydrochloride salt) and blue, film-coated tablets, each containing 5 mg chloridazepoxide and 12.5 mg amitriptyline (as the hydrochloride salt). Bottles of 100 and 500; Tel-E-Dose® packages of 100, available in trays of 4 reverse-numbered boxes of 25, and in boxes containing 10 strips of 10, Prescription Paks of 50.

How to initiate and maintain therapy

Select dosage strength appropriate for each patient

- Limbitrol 5-12.5 is recommended to minimize drowsiness and for elderly patients
- Limbitrol 10-25 may be indicated for patients who tolerate medication without undue side effects

Specify daily dosage based on symptom severity

- An initial dosage of three tablets is recommended
- Dosage may be increased to six tablets or decreased to two tablets daily as necessary
- Once a satisfactory response is obtained, patients should be continued on the smallest dose required to maintain the desired effect

Utilize dosage options to best accommodate individual patient needs

- T.I.D. or Q.I.D., familiar regimens most suited for patients who tolerate medication without undue drowsiness
- Two tablets one hour before bedtime and one tablet midday may minimize daytime drowsiness and help relieve a common target symptom — insomnia
- Entire dosage h.s. to take maximum advantage of the sedative effect

Your guide to patient management... when you decide medication is needed

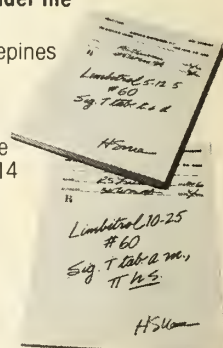
How to make each patient an informed patient

1. Discuss with patients the probability that they will experience drowsiness, especially during the first week.
2. Reassure your patients that drowsiness is one indication that the medication is working and that it may help alleviate their insomnia.
3. Encourage patients to report if drowsiness becomes troublesome so that, if necessary, dosage schedule can be adjusted.
4. Caution patients about the combined effects with alcohol or other CNS depressants. Let them know that the additive effects may produce a harmful level of sedation and CNS depression.
5. Caution patients about activities requiring complete mental alertness, such as operating machinery or driving a car.
6. Warn pregnant patients and patients of childbearing age that the safety of Limbitrol in pregnancy has not yet been established.

Please see complete product disclosure for other pertinent information.

Limbitrol should not be used under the following circumstances:

1. Hypersensitivity to benzodiazepines or tricyclic antidepressants.
2. Concomitantly with an MAO inhibitor. To replace an MAO inhibitor with Limbitrol, discontinue MAO inhibitor for a minimum of 14 days before cautiously initiating Limbitrol therapy.
3. During the acute recovery phase following myocardial infarction.



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In moderate depression and anxiety
Limbitrol®
Relief without a phenothiazine

Childhood Burkitt-Type Lymphoma At The North Carolina Memorial Hospital

Debra Gaddy, R.N., M.S.N.,* Seth A. Rudnick, M.D.,**
Campbell McMillan, M.D.,*** and Stanley Lipper, M.D.****

ABSTRACT Nine cases of Burkitt-type lymphoma have appeared at the University of North Carolina at Chapel Hill during the past 18 months. The patients ranged in age from 5 to 15 years and presented predominantly with evidence of intra-abdominal disease (7/9); rapid progression of the process was a distinctive feature in five. "Complete remissions were obtained in five of the nine using a combination of radiation and chemotherapy. Four are still in complete remission 4 to 15 months after initiation of therapy although one patient has relapsed. Severe metabolic problems complicated the course in six of nine patients with massive disease; in two these occurred before starting treatment. Because of inherent difficulty in the management of pediatric or adult Burkitt's lymphoma, we believe that support facilities permitting intensive treatment of both disease and complications are essential for patients who present with rapidly enlarging abdominal or facial masses.

BURKITT'S lymphoma is a diffuse undifferentiated lymphoma of B-lymphocyte origin occurring primarily in childhood. Although

the original cases were identified in Kenya and Uganda,¹ hence the name African or endemic Burkitt's, in the past decade cases have been recognized elsewhere.² The morphological findings of African and nonendemic Burkitt's are identical, but clinical features differ.³

The mean age of affected African children with Burkitt's lymphoma is seven years, compared to a mean of 11 years in North American cases. African Burkitt's lymphoma most commonly presents as a jaw mass,⁴ originating in the marrow of facial bones. In non-Africans and older African children the gastrointestinal sites, including the omentum, mesentery, kidneys, ovaries and retroperitoneal tissues,⁵ are the most often involved, most children presenting with signs of an abdominal mass.

The Epstein-Barr virus (EBV) is found in up to 97% of children with African Burkitt's lymphoma.⁶ No convincing proof exists for EBV involvement in non-endemic cases. Anderson⁷ found that only 8%-17% of North American Burkitt's patients had positive EB viral titers, not too dissimilar from the American prevalence of EB virus.

The response of Burkitt's lymphoma to chemotherapy is striking but, until recently, results for non-endemic Burkitt's lymphoma were inferior to those for African Burkitt's. However, a recent trial with American patients has shown tumor response rates, frequency of relapse, and survival to be comparable to results achieved in African

patients.^{4,8,9} Nine patients with nonendemic Burkitt's (or Burkitt-like) lymphoma have recently been treated at North Carolina Memorial Hospital (NCMH), eight in the last 15 months. This report illustrates the potential for cure as well as the problems encountered in treating this relatively rare tumor.

METHODS

The records of our nine patients, eight with unequivocal disease, one with a strongly suspicious bone marrow, were reviewed. Data about clinical presentations, diagnostic evaluation, primary and supportive treatment, complications, response to therapy and laboratory findings (serum electrolytes, liver and renal function tests) were collected and pathological specimens reviewed to confirm the diagnosis. In Case 9 the histology was suggestive of, but not conclusive for, Burkitt's. However, since his clinical presentation and course were consistent with the diagnosis — and he received treatment according to the Burkitt's protocol — he is also described.

REPORTS OF REPRESENTATIVE CASES

Case 1

A 6-year-old boy presented with a five-day history of decreased activity, night sweats and progressively severe abdominal pain. With the onset of abdominal distention over 1 to 2 days, he was admitted to his local hospital and after surgical consultation was transferred to NCMH. Examination revealed a

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5 x 7 cm left submandibular node, hepatosplenomegaly, abdominal distention and extensive ecchymoses. Blast cells in the peripheral blood and bone marrow aspiration were consistent with acute lymphocytic leukemia.

The patient was given intravenous fluids, allopurinol, bicarbonate; vincristine and prednisone were begun on the second day of hospitalization. The next day blood chemistries were within normal limits except for the uric acid (12.5 mg/dl). Later that day, the patient's urine output decreased and urinalysis showed hematuria, proteinuria, and 4+ amorphous urates. By mid-afternoon the child had become combative and disoriented and suffered a cardiopulmonary arrest. Serum sodium was 122 mEq/l, and serum potassium 8.2 mEq/l at the time of arrest. Resuscitative efforts failed and postmortem examination revealed extensive infiltration of the lungs, liver, spleen and kidneys with Burkitt-type lymphoma.

Case 3

A 15-year-old white female was well until three weeks before entry when she had a flu-like syndrome with anorexia, lethargy and leg pain for which she was given antibiotics without improvement. During the week before admission she developed abdominal tenderness, profuse intermenstrual vaginal bleeding, epistaxis, fever and profound weakness. She was immediately transferred to NCMH from her local hospital.

On examination she had diffuse abdominal tenderness and distention, hepatosplenomegaly, ascites, pale, cold, clammy skin, a 3 x 5 cm axillary node, hypertension, tachycardia and tachypnea. She was disoriented and stuporous. She was found to be anemic (hematocrit 18 vol%), thrombocytopenic (35,000/mm³), hyponatremic (serum sodium 122 mEq/l), and acidotic (arterial pCO₂ 11 mm Hg, pH 7.25). She was also in acute renal failure (blood urea nitrogen 65 mg/dl, serum creatinine 3.9 mg/dl, uric acid 26 mg/dl).

The acidosis was treated initially with sodium bicarbonate. Fifteen

hours after admission she required continuous hemodialysis because of persisting acidosis (pH 7.16, serum CO₂ 5 mEq/l), excessive volume expansion, and a rapidly rising serum creatinine and BUN. She required 120-150 mEq of bicarbonate per hour in addition to mechanical hyperventilation with 100% FiO₂ and dialysis to maintain a stable pH. Emergency radiotherapy and chemotherapy were given 24 hours after admission. Six hours later, she died despite all resuscitative efforts.

Necropsy showed diffuse Burkitt-type lymphoma involving the kidneys, ovaries, uterus and breasts with nodular involvement of the liver, heart, adrenals, pancreas and gastric and small bowel mucosa. The dura and epidural fat was infiltrated by tumor. Splenic involvement was characterized by periarteriolar infiltration.

Case 7

A swelling of the right side of the neck was first noted by this 7-year-old boy one month before admission. Except for a five-pound weight loss over several months, he had had no symptoms. The swelling was attributed to infection and treated with antibiotics without improvement. He soon thereafter complained of abdominal pain and was admitted to NCMH where examination revealed a 6 x 7 cm mass in the right submandibular area and a 12 cm abdominal mass. Biopsy of the cervical node showed undifferentiated lymphoma — Burkitt's type.

He was treated for six months and

after the first month was in complete remission. An off-therapy clinical restaging evaluation was negative and he continues to do well 15 months after diagnosis.

Case 8

This 3-year-old white male was admitted to his local hospital with a 4-6 week history of pallor and increasing abdominal distention for several days. He was otherwise asymptomatic except for decreased appetite. On admission, he had a prominent abdomen with ascites, midline tumor mass, a palpable mass in the anterior rectal wall, and a hematocrit of 14 vol%. On the fifth day of hospitalization a paracentesis returned cloudy yellow fluid containing mononuclear cells consistent with intra-abdominal lymphoma confirmed by exploratory laparotomy. He was transferred to NCMH two days after the operation because of progressive abdominal distention with gastric stasis and respiratory compromise.

On the fourth day of hospitalization his urine output decreased to 45 cc in 24 hours and there was evidence of bowel obstruction. He was given 75 rads of whole abdominal irradiation. The day after radiation therapy, the patient developed large bilateral pleural effusions which contained malignant cells. The abdominal mass was larger, and chemotherapy was begun.

Induction of therapy was stormy, with hypocalcemia requiring calcium replacement, congestive heart failure, pericardial effusion, acute tubular necrosis secondary to pre-

Table I
Presenting Symptoms of Burkitt's Patients at NCMH

| Symptom: | Total | % | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|--|-------|----|---|---|---|---|---|---|---|---|---|
| Abdominal Pain | 5 | 55 | + | + | + | | | | + | + | |
| Abdominal Distention | 5 | 55 | + | + | + | | | | | + | + |
| Weakness | 5 | 55 | + | + | + | | + | + | | | |
| Anorexia | 4 | 44 | + | | + | | + | + | | | |
| Sweats | 4 | 44 | + | | | | + | | | + | + |
| Fever (≥ 101°) | 3 | 33 | + | + | + | | | | | | |
| Vomiting | 3 | 33 | + | + | + | | | | | | |
| Pallor | 3 | 33 | | | + | | | + | | + | |
| Adenopathy | 3 | 33 | | | + | | | + | + | | |
| Epistaxis | 2 | 22 | | | + | + | | | | | |
| Weight loss (10% of body mass in 2 months) | 2 | 22 | | | + | | | ? | + | | ? |

+ = Occurred in case
? = Suspected, not documented

Table II
Treatment of NCMH Burkitt's Patients

| Case | Stage | Radiotherapy | Chemotherapy | Time to Response | Length of Complete Response | Site of Relapse |
|------|-------|--|---|-------------------------------|-----------------------------|------------------------|
| 1 | D | None | Vincristine (VCR) × 1 Prednisone × 1 | None (death during induction) | — | — |
| 2 | D | 2400 rads to cranium | *NIH 75-6 | 4 wks. | 8 wks. | Central Nervous System |
| 3 | D | 350 rads to cranium | Thiotepa × 1 VCR × 1 Decadron × 1 | None (death during induction) | — | — |
| 4 | A | 2600 rads to axilla | NIH 75-6 | 4 wks. | 8 wks. | R axilla |
| 5 | B | 600 rads to orbit 4000 to other sites | **UNC | 2 wks. | 10 mos.+ | None |
| 6 | D | None | NIH 75-6 | 4 wks. | 6 mos.+ | None |
| 7 | D | None | NIH 75-6 | 6 wks. | 15 mos.+ | None |
| 8 | C | 75 rads to abdomen | ***NIH 77-04 (with A) | 3 wks. | 4 mos.+ | None |
| 9 | D | None | NIH 75-6 VAP × 2 | 4 wks. | 8 wks. | Abdomen |

Time to response = time from first therapy to clinical remission.

Length of response = time from remission to relapse.

*NIH 75-6 = Cyclophosphamide, Vincristine, Methotrexate (IT and IV) and Prednisone.

**UNC = Cyclophosphamide, Vincristine, (V) Adriamycin, (A) Prednisone, (P) high dose Methotrexate with Leukovorin rescue

***NIH 77-04 = Cyclophosphamide, Adriamycin, Vincristine, Prednisone, High-dose Methotrexate with leukovorin rescue.

renal azotemia, recurrent pleural effusions, fever requiring antibiotics and neutropenia. But remission was achieved and he is now beginning cycle four of therapy in complete remission.

RESULTS

The group included one female and eight males ranging in age from 5 to 15 years (median 7 years). All but one were Caucasian. The symptoms at diagnosis are listed in Table I. The nine cases presented over a period of 18 months at

NCMH; similar cases could not be identified in the Tumor Registry of the other major tertiary care hospital in central North Carolina (Duke University Medical Center). Seven of the patients in this series presented with an abdominal mass; abdominal pain and distention were noted in five cases. Rapid onset of disease symptoms was a distinctive feature in five patients.

All were given chemotherapy alone or in conjunction with radiotherapy (Table II). Those who responded did so rapidly, but two died

suddenly within 24 hours of receiving cytotoxic agents. Both had profound hepatic and renal failure and extraordinary metabolic disturbances. With one exception (Case 7), all patients with Stage C or D disease (Table III) experienced some electrolyte or renal abnormalities during therapy. Two patients died in relapse two months and six months after diagnosis. Five patients are still alive, four with no clinical evidence of disease and one with local relapse. Eight of the nine cases came from predominantly rural counties with farming and textile manufacturing the only major industries. There appeared to be no geographic clustering since the cases were scattered throughout the state (Figure 1).

PATHOLOGY

Diagnostic tissue obtained from all patients showed the classical light microscopic features of a

Table III
Burkitt's Lymphoma Staging Scheme

| Stage | Extent of Tumor |
|-------|--|
| A | Single extra-abdominal site |
| B | Multiple extra-abdominal sites |
| C | Intra-abdominal tumor |
| D | Intra-abdominal tumor with one or more extra-abdominal site |
| AR | Stage C but with 90% of tumor resected surgically (adopted from Ziegler ⁶) |

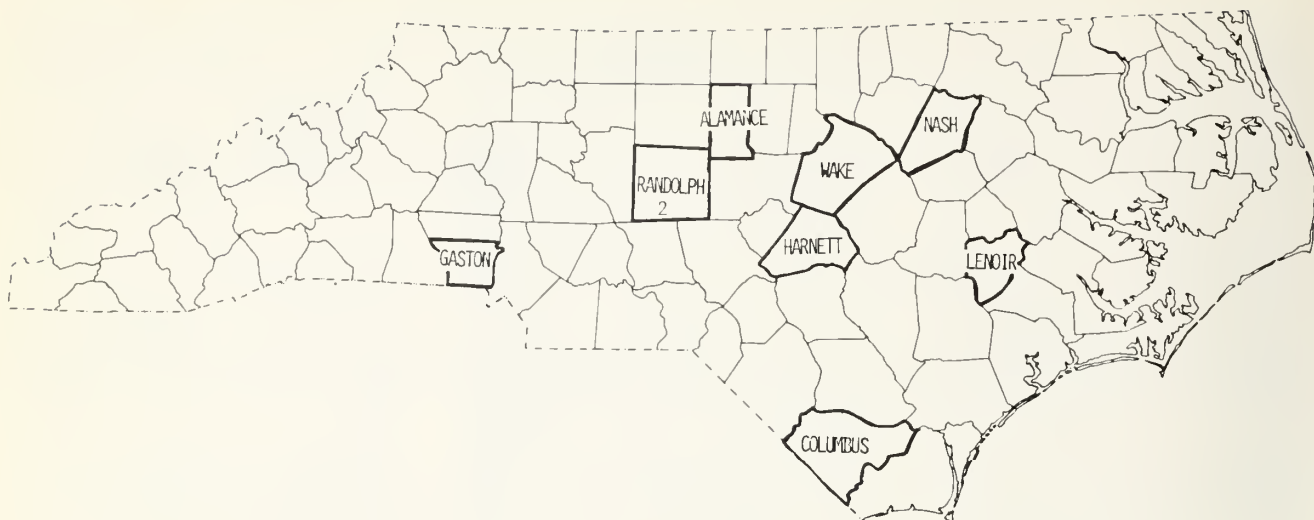


FIGURE 1:
GEOGRAPHIC DISTRIBUTION BY COUNTIES OF INCMH
BURKITT'S LYMPHOMA PATIENTS.

Burkitt-type lymphoma. In Case 9 the only available tissue was bone marrow, which was consistent with Burkitt-type lymphoma. The neoplastic infiltrate consisted of medium sized, non-cleaved cells, nuclei having an open chromatin meshwork, and prominent single or multiple nucleoli, surrounded by scanty basophilic, strongly pyroninophilic cytoplasm. In all nine cases, necrosis was a prominent feature, and large tingible-body macrophages were interspersed throughout the tumor giving the classical starry sky appearance (Figure 2). Wright-stained smears and imprints showed fine cytoplasmic vacuolation of tumor cells. Ultrastructural studies on Case 3 revealed abundant lipid vacuoles in the tumor cell cytoplasm (Figure 3).

DIAGNOSTIC TESTS

The accuracy of diagnostic tests in intra-abdominal Burkitt's is illustrated in Table IV. Intravenous pyelogram (IVP) was performed in five C or D cases and was abnormal in two. Abdominal ultrasound was done in four cases and was abnormal in each. A displaced kidney was detected on computerized tomography (CT) in one case along with para-aortic lymphadenopathy — the adenopathy was missed on intrasound. Gallium scanning of two patients failed to add information

beyond that available from physical examination of node bearing areas or the abdomen.

Table V shows the relationship between serum glutamic oxaloacetic transaminase (SGOT), lactic dehydrogenase (LDH), alkaline phosphatase (AP), and the results of liver scanning. Although either the radionuclide scan or ultrasound was abnormal in three cases of C or D disease — proved at autopsy or surgery — the abnormality was limited to hepatomegaly in two cases with no focal defects seen. In Case 7, the alkaline phosphatase was 102 U/l, LDH 1540 U/l, and SGOT 101 U/l, and both the radionuclide and ultrasound examination of the liver were normal. Case 8 had a normal liver scan, without ultrasound examination, with an alkaline phosphatase 110 U/l, LDH 1030 U/l, and SGOT 55 U/l. Thus, the ul-

trasound and/or radionuclide liver scan failed to reveal abnormality in two cases where liver function tests were abnormal.

DISCUSSION

Complete clinical responses have been obtained in more than 90% of patients by treatment with high-dose alkylating agents and cell cycle specific agents.⁸ This extraordinary sensitivity to therapy is related to the same factor that causes metabolic complications — the rapid cell turnover rate.¹⁰ The potential tumor doubling time is approximately 24 hours and the growth fraction is essentially 100%.¹⁰

As a consequence of the rapid cell turnover and marked sensitivity to chemotherapy, massive tumor lysis in patients with Burkitt-type lymphoma leads to metabolic disturbances when treatment begins.¹¹⁻¹⁶ Three of 54 patients treated with the NIH 75-6 protocol died of metabolic complications presumably resulting from disturbances associated with massive cell lysis.⁹ Metabolic disturbances in these and other Burkitt's lymphoma patients have included hyperkalemia, hyperuricemia, hyperphosphatemia and hypocalcemia. Patients considered at high risk for developing severe metabolic complication have been those with large abdominal masses and/or renal failure. Six patients

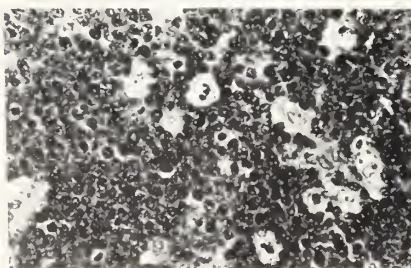


Figure 2. Photomicrograph showing monomorphic infiltrate of medium-sized lymphoid cells, with starry-sky pattern due to macrophages ingesting cellular debris. (H+Ex250)

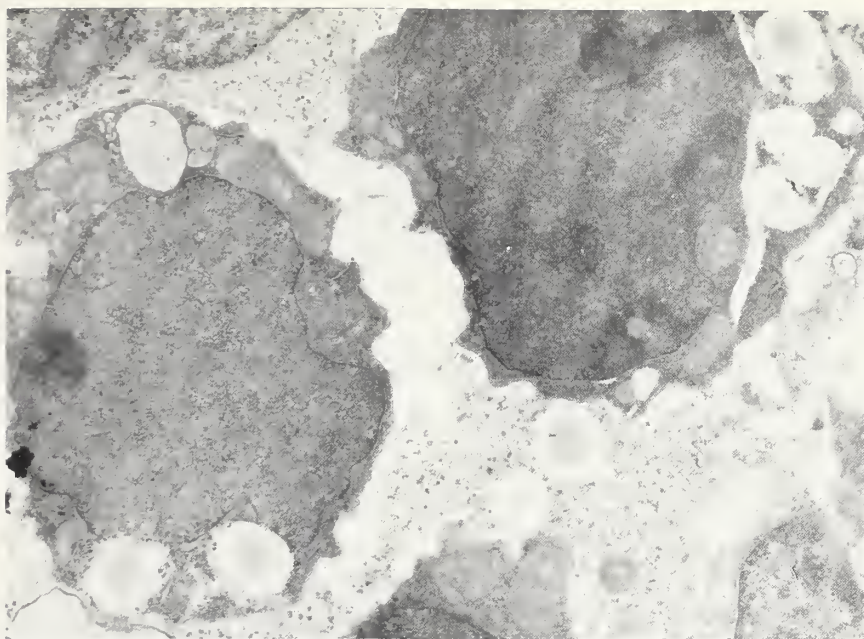


Figure 3. Electronmicrograph showing lipid vacuoles within the cytoplasm of Burkitt-type cells (x 1530).

treated here had metabolic disturbances upon initiation of induction chemotherapy despite receiving intravenous hydration, urinary alkalization and allopurinol. Each of our patients who manifested significant metabolic disturbances presented with a rapidly growing, unresected abdominal mass, elevated LDH levels and had or developed serous effusions. In Case 3 renal failure with hyperuricemia occurred before administration of chemotherapy because of the extent, location and high turnover rate of the tumor. As in other series, no patients with limited disease (Stage A or B) had metabolic complications from therapy.¹⁷

The diagnosis, evaluation and management of patients with Burkitt-type lymphoma require pathological and clinical expertise. The proliferation of a tumor in a matter of days to a point where it compresses and obstructs vital organs and threatens life makes a leisurely diagnostic workup hazardous. Early clinical recognition of Burkitt's lymphoma is essential. Accordingly, the World Health Organization³ has described features that help one characterize the disease quickly:

1) Predominantly a disease of childhood.

2) Rapid onset and rapidly fatal if untreated.

3) Rapidly growing solid tumor or tumors, usually extra-nodal.

4) Generally multifocal and widely disseminated involving one or more sites (abdomen and/or viscera, retroperitoneal tissues, facial bones, long bones, thyroid, salivary glands and central nervous system).

5) Absence of significant leukemic manifestation in the peripheral blood although small numbers of malignant cells can be present in advanced cases.

We also call attention to frequent metabolic complications — hypocalcemia, hyperuricemia, and hyperkalemia aggravated by renal failure and acidosis — threatening life.

When Burkitt-type lymphoma is included in the differential diag-

Table IV
Comparison of Diagnostic Radiology in Intra-abdominal Lymphoma

| Patient | Final Pathologic Stage | IVP | Abdominal Ultrasound | Computerized Tomography | Gallium Scan |
|---------|------------------------|--|---------------------------------|-------------------------|-------------------------|
| 2 | D | Normal | Retrovesicular mass/HM* | Not Done | Not Done |
| 6 | D | Displaced L Kidney | Displaced L Kidney | Displaced L Kidney, PAA | SM |
| 7 | D | Normal | Not Done | Not Done | Abdominal & neck uptake |
| 8 | C | Normal | Not Done | Not Done | Not Done |
| 9 | D | Displaced R kidney and dilated ureters | Retrovesicular Mass/ liver mets | Not Done | Not Done |

*HM = Hepatomegaly

**SM = Splenomegaly

***PAA = Paraaortic lymphadenopathy

Table V
Relationship Between Liver-Spleen Scan and Liver Function Test in Burkitt's Lymphoma

| Cases/Stage | Scan | AP ¹ | LDH ² | SGOT ³ |
|-------------|-----------------|-----------------|------------------|-------------------|
| 1/D | HM ⁴ | 333 | 14,000 | 358 |
| 2/D | HM | 59 | 1,500 | 50 |
| 3/D | Not Done | 157 | — | 157 |
| 4/A | Not Done | 30 | — | 11 |
| 5/B | Normal | 78 | 235 | 11 |
| 6/D | Not Done | 96 | 537 | 31 |
| 7/D | Normal | 102 | 1,540 | 101 |
| 8/C | Normal | 110 | 1,030 | 55 |
| 9/D | Focal defects* | 662 | 9,182 | 1055 |

¹AP = Alkaline Phosphatase (nl 20-90 units/liter)

²LDH = Lactic Dehydrogenase (nl 90-320 units/liter)

³SGOT = Glutamic-oxaloacetic transaminase (nl 5-40 units/ml)

⁴HM = Hepatomegaly

*Both radionuclide and ultrasound scan

nosis, a complete diagnostic evaluation should be done *promptly*, including abdominal echo or computerized axial tomography, liver function tests, serum electrolyte determinations, bone marrow aspiration, lumbar puncture and a biopsy of the tumor mass. Little additional information will be gained by such examinations as gallium or liver/spleen scans. The intravenous pyelogram is not particularly valuable in detecting intra-abdominal adenopathy, while information on ureteral distortion may be obtained from a contrast CT study. Furthermore, a laparotomy may serve a therapeutic purpose in patients with Burkitt's lymphoma because large hyperproliferative tumor masses can be removed. This may also help some patients avoid the impaired renal function and extraordinary chemical changes which occur with rapid lysis of a tumor.¹² McGrath, et al,¹⁸ showed that patients who had at least 90% of their abdominal tumor resected had

remission and survival rates similar to those who never had abdominal tumor. Surgery may only be delayed by the performance of gallium scans, IVPs and liver/spleen studies which are of little value.

While aggressive multidrug therapy can result in a 96% complete remission rate with a 54% projected two-year survival,⁹ the initial mortality rate may be as high as 15%. Awareness of the "tumor lysis" syndrome as a potentially fatal complication of cytotoxic therapy, or as a *presenting* symptom, requires that these patients be subject to expert clinical evaluation and management during induction of treatment. Tertiary care support facilities should provide more children the opportunity for remission and prolonged survival when diagnostic studies and therapy are rapidly instituted.

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Kussmaul Breathing

1. This dyspnoea is not the product of a reflex excitation of the respiratory centers from the vagus or the laryngeal nerve, but is a result of a direct central stimulation.

2. It is not the result of a lack of oxygen in the respiratory center, either the result of a stagnation of a slow flow of blood in the capillaries or the result of an inability of the red blood cells to hold oxygen.

3. It is not the result of an inordinate increase of carbon dioxide in the blood.

4. It must have its cause in an intoxication of another sort which stands in close relationship to the chemical disturbances of the body in diabetes; concerning the nature of this toxic agent we cannot say anything for a certainty: acetonemia in the form as it is described by Kaulich, does not explain it. However, it is necessary to prove first the correctness of Kaulich's view, — Adolf Kussmaul, 1874.

Violence in North Carolina Families Referred to a Child Protection Team

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Trish M. Perl, A.B., and Frank Loda, M.D.

ABSTRACT Intrafamily violence is common and children are affected whether they are victims or observers. The frequency of domestic violence in the families of all children from North Carolina referred to the Maltreatment Syndrome Team of North Carolina Memorial Hospital from June 1975 to May 1977 was evaluated by review of their medical records. Wife abuse in these troubled households was as common in families who did not physically abuse their children as in those who did. Wife abuse was strongly associated with alcohol abuse and also appeared to occur more frequently in older mothers with more than three pregnancies. Antisocial behavior was also common in this group of families. These data are consistent with those of other independent researchers. They suggest that domestic violence may occur more frequently in North Carolina families referred to a Child Protection Team than in the general population of the state and emphasize the importance of involving the entire family in child maltreatment interventions.

INTRODUCTION

INTRAFAMILY violence is common. Ten percent to 25% of families^{1, 2} report at least one epi-

sode of domestic physical violence a year. Hospital-based reviews of child maltreatment during the past decade have not emphasized other manifestations of family violence in their samples.³⁻¹⁰ However, domestic violence is an important consideration in the diagnosis and treatment of abusive families because children are affected whether they are victims or observers.^{11,12} Therefore, the experience of the Maltreatment Syndrome Team (MST) of North Carolina Memorial Hospital (NCMH) for two years was reviewed to ascertain the frequency of violence in the home and antisocial behavior in all families from North Carolina referred to us during that time.

METHODS

The Maltreatment Syndrome Team is an interdisciplinary group that reviews cases of suspected child abuse and neglect referred by the medical staff at NCMH. One investigator reviewed the medical records of all children (177 children representing 158 families) referred to the MST from June 1975 through May 1977. Reasons for referral to the MST, medical history, family history and demographic data were collected. The investigator also obtained additional information from the social worker assigned to each family.

The following operational definitions were used:

1. Child Maltreatment: The disposition of NCMH's MST was used

to categorize cases. The team's definitions of maltreatment were similar to those of the November 1978 draft of the Operational Definition Report for the National Study of the Incidence and Severity of Child Abuse and Neglect by Westat, Inc., submitted to the National Center on Child Abuse and Neglect.¹³

2. Wife Abuse — "Wife" denoted the index child's mother-figure, usually the biological mother, who was not necessarily married to the man in the household. Wife abuse was considered present when there were verbal reports by family members of physical injury, observations by hospital staff of physical injury, medical care for injuries inflicted on the mother figure, or involvement of police officers in domestic altercations.

3. Alcohol Abuse — The Family History Research Diagnostic Criteria¹⁴ for alcoholism were used. These criteria include legal, medical and social indicators of alcohol abuse.

Null hypotheses were tested using the chi square statistic. Measures of effect were expressed as risk ratios.¹⁵

RESULTS

CHILDREN

The characteristics of children in this sample were similar to those of hospital-based studies from other states.⁵⁻¹² There was a predominance of young children: 32% were less than 12 months of age and 61%

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were less than 36 months of age. A history of at least one major health problem was present in 59% of the children, reflecting NCMH's tertiary care function. The sex and race distribution of the study population was comparable to that of all children seen by the Department of Pediatrics at NCMH.

Table I lists the diagnoses of the MST. In 49 cases there were multiple diagnoses. Dermatological manifestations of maltreatment were present in 35 (62%) of the 56 physically abused children, and

| TABLE I | |
|--|------------|
| CATEGORIES OF MALTREATMENT | |
| (June 1975-May 1977) | |
| Number of Children—177 | |
| Categories* | # of Cases |
| Abuse and/or Neglect Present | |
| Neglect | 72 |
| Physical Abuse | 56 |
| Failure to Thrive | 25 |
| Child-Child Injury | 13 |
| Ingestion Associated with Neglect | 9 |
| Emotional Abuse | 9 |
| Sexual Abuse | 6 |
| Abuse and/or Neglect Not Present | |
| High Risk Psychosocial Factors Present | 50 |
| High Risk Psychosocial Factors Not Present | 3 |

*Categories of Abuse and Neglect are not mutually exclusive, 49 children had multiple diagnoses.

fractures were present in 20 (36%). The frequencies of specific injuries are described in Table II. Two deaths were caused by the index episode of abuse and three deaths were related to subsequent maltreatment. In 70% of the cases a report of abuse or neglect was made under the North Carolina reporting law. Although no abuse or neglect was identified in 30% of cases, community resources were frequently asked to assist these families with problems of daily living (e.g., child care and financial problems).

THE FAMILIES

The families came from 42 of the 100 counties in North Carolina. Sixty-seven percent of the families were from rural counties, but only 6% were engaged in agriculture.

TABLE II
DERMATOLOGICAL AND SKELETAL MANIFESTATIONS
OF PHYSICAL ABUSE
(N = 56)

| *Category | # of Cases | % |
|-------------------------------|------------|-----|
| Bruises and/or Abrasions | 30 | 54% |
| Burns | 9 | 16% |
| Lacerations | 8 | 14% |
| Skull Fractures | 11 | 20% |
| Long-bone Fractures | 9 | 16% |
| Skull and Long-bone Fractures | 2 | 3% |

*Categories are not mutually exclusive.

This pattern is typical for North Carolina where 47.6% of the population is rural, but non-farm.¹⁶ Families received income from a variety of sources. Both parents were employed in 20% of cases and the father figure was employed in an additional 50% of families. Sixty-nine families had multiple sources of income, including employment, Aid to Families with Dependent Children, social security and disability benefits.

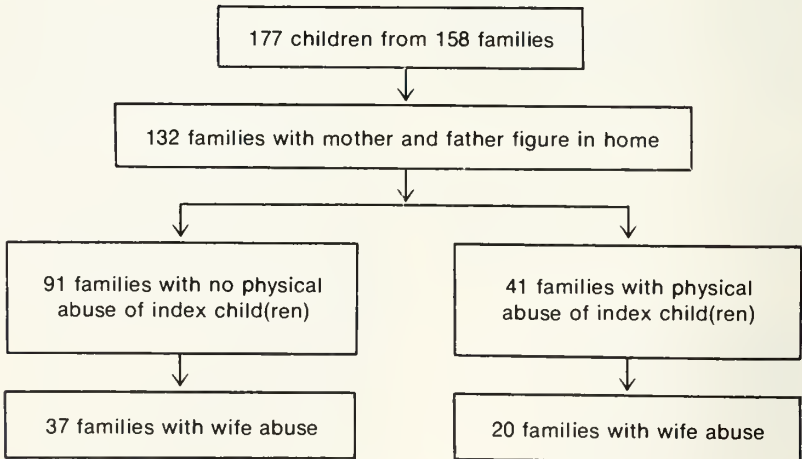
There were 158 families in the study, but both a mother and a father figure were present in only 132 families. (See Figure 1.) In 41 families with a mother and father figure, there was physical abuse of the index child or children and in 20 (49%) of these families there was wife abuse. In the 91 study families

with both a mother and father figure and no physical abuse of the index child or children, wife abuse occurred in 37 (40%) of the households. There was no difference in the prevalence of wife abuse between families who abused and did not abuse their children ($X^2 = 0.759$ $df = 1$, $p > 0.2$). A high prevalence of wife abuse was present in families where a history of multiple episodes of physical abuse of the index child was elicited on initial presentation. Wife abuse was present in nine (90%) of these families.

Data on alcohol use were available in 77 of the 132 families with both spouses at home. Wife abuse was present in 39 of 47 (82%) families with alcohol abuse and three of 30 (10%) families with no alcohol abuse. The risk ratio,

$$\frac{\text{proportion of abused wives in families with alcohol abuse}}{\text{proportion of abused wives in families w/out alcohol abuse}} = \frac{0.82}{0.10} = 8.2$$

FIGURE 1
OCCURRENCE OF PHYSICAL ABUSE OF INDEX CHILD(REN) AND WIFE ABUSE
IN FAMILIES SEEN BY THE MALTREATMENT SYNDROME TEAM
June 1975 through May 1977



is significant ($X^2 = 39.34$, $df = 1$, $p < 0.001$).

Information concerning the number of pregnancies experienced was available on 95 of the 132 mothers. More than three pregnancies in the mother figure was associated with an increase in wife abuse. Wife abuse was present in 23 of 30 (77%) mothers (mean age at birth of index child — 25.4 years) who had more than three pregnancies. Spouse abuse occurred in 34 of 65 (52%) women (mean age at birth of index child — 21.1 years) with three or fewer pregnancies. The risk ratio,

$$\frac{\text{proportion of abused mothers in the more-than-3 pregnancies group}}{\text{proportion of abused mothers in the 3 or fewer pregnancies group}} = \frac{0.77}{0.52} = 1.4$$

is statistically significant ($X^2 = 5.07$, $df = 1$, $p < 0.025$).

Violent and antisocial behavior in these families was not limited to the home. In 62 of all 158 families (39%) there was a history of deviant, frequently illegal behavior outside the home. The likelihood of felonies ($X^2 = 5.06$, $df = 1$, $p < 0.025$) and suicide or suicidal gesture ($X^2 = 8.20$, $df = 1$, $p < 0.005$) was higher in families who physically abused their children than in those who did not (Table III). There was no difference between the two groups for less serious forms of antisocial behavior ($X^2 = 1.42$, $df = 1$, $p > 0.20$).

DISCUSSION

As in most retrospective chart reviews, several forms of bias are in-

herent in this study. Much of the information was obtained by social workers aware of the issues involved and more likely to focus their interview on domestic violence in families of maltreated children. In many cases, especially those seen as outpatients, there was insufficient contact to obtain a uniform amount of data on every family. Information was often provided by only one family member and there was no opportunity for home visits or interviews with other family members.

Our data suggest that domestic violence may be more common in families referred to child protection teams (40%) than in the general population (10% to 25%).^{1, 2} The strong association between alcohol abuse and child maltreatment in this sample corroborates the findings of another investigator.¹⁷ The prevalence of wife abuse for women with more than three pregnancies (77%) suggests that interparental violence may not diminish with time and that it becomes a habitual mode of interaction in some families.

These family violence data are consistent with findings in a similar sample¹⁸ from North Carolina. Both studies have important implications for diagnosis and treatment because violence reverberates through the family system¹⁹ and “sets the stage

for the ramifications of aggression and violence and other antisocial behaviors which surface in adolescence and adulthood.”²⁰ The abused child’s physician must approach the “family as a unit”²¹ to protect the patient and initiate therapy for the entire family.

Acknowledgment

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TABLE III
ANTISOCIAL BEHAVIOR IN HOUSEHOLD FAMILY MEMBERS OF CHILDREN
SEEN BY THE MALTREATMENT SYNDROME TEAM
June 1975 through May 1977

| Antisocial Behaviors* | Families with Physical Abuse of Index Child(ren) | | Families without Physical Abuse of Index Child(ren) | | P |
|--|--|-----|---|-----|---------|
| | # of families | % | # of families | % | |
| | N = 41 | | N = 117 | | |
| Arrest for murder, assault, larceny, or possession of deadly weapon | 10 | 24% | 12 | 10% | < 0.025 |
| Suicide or suicidal attempt | 10 | 24% | 8 | 7% | < 0.005 |
| Other antisocial behavior (drunk driving, prostitution, less than honorable discharge, etc.) | 8 | 20% | 34 | 29% | > 0.20 |

*Categories not mutually exclusive

Contaminated Herbal Tea as a Potential Source of Chronic Arsenic Poisoning

James S. Parsons, M.D.

ABSTRACT When chronic arsenic intoxication is discovered, it is often difficult to distinguish between intentional poisoning and accidental exposure. Arsenicals are widely used by industry in the production of paints and dyes, porcelains and ceramics, insecticides and herbicides, the processing of leather and the cleaning and manufacturing of specific metals. Their use in the medical armamentarium dates back for centuries. More recently, solutions containing arsenic were used quite commonly in the treatment of asthma and chronic skin disorders, and arsphenamine is often used to treat syphilis. This case report calls attention to a new potential source of chronic arsenic intoxication through ingestion of a home-prepared herbal tea.

CASE REPORT

A 54-year-old construction crew foreman was hospitalized on June 19, 1978, for progressive paresthesias and limb weakness. He described an eight-month course of initial numbness and burning involving the hands and the soles of the feet. As these symptoms increased, progressive muscle weakness required him to stop working and ultimately he needed crutches for ambulation.

The patient described two episodes of acute gastroenteritis with nausea, diarrhea and prostration. These spontaneously resolved over several weeks.

On examination the patient was found to have a generalized xerosis with scaling of the palms and soles and nail findings suggesting Mee's lines.

Neurologic examination disclosed a stocking and glove sensory

deficit and a marked motor weakness (distal somewhat worse than proximal muscle groups), so severe that the patient could not stand unassisted. Reflexes were absent except for trace triceps reflex; both plantar reflexes were flexor.

Laboratory data revealed normal serum electrolytes; normal liver function; normal renal function (BUN 15 mg/dl, serum creatinine 1.1 mg/dl); the serum calcium was 9.8 mg/dl and phosphorus 3.2 mg/dl. Thyroid function was normal, as was serum protein electrophoresis.

Hematocrit was 37.8 vol%, the hemoglobin 11.3 g/dl, with normochromic, normocytic indices. Reticulocyte production index was 3.8% (absolute 202,137). White blood cell count was 2,300 mm³ with 6 bands, 12 segmented forms, 11 eosinophils, 2 basophils and 63 lymphocytes. Platelets were 392,000 mm³. Bone marrow examination revealed no maturation abnormalities, but there was an absolute decrease in mature myeloid elements and erythroid hyperplasia.

Lumbar puncture on the day of admission revealed a normal opening pressure; examination of the cerebrospinal fluid disclosed 6 mononuclear cells, no red cells, protein 58 mg/dl, and glucose 58 mg/dl (serum 119 mg/dl). All stains and cultures of the spinal fluid were negative.

Nerve conduction studies showed mildly decreased velocities in the ulnar and peroneal nerves and a moderately decreased velocity in the median nerve. Motor amplitudes were diminished and dropped dramatically with more proximal stimulation. Electromyographic studies showed a decreased number of motor units under voluntary

control, most evident in the distal groups.

Arsenic intoxication was suspected and an initial 24 hour urine contained mercury 3 µg/l (normal < 30 µg/l); lead 14 µg/l (normal < 80 µg/l), and arsenic 1,950 µg/l (normal < 100 µg/l). Multiple specimens contained between 597 and 920 µg/l. Nail clippings contained arsenic in the concentration of 6,000 µg/100 g (normal 20-60 µg/100 g). A thorough investigation by the Fulton County (Georgia) Health Department revealed no potential source of exposure at the patient's home or work sites. Home water testing for arsenic was negative. All family members tested (wife and four children) showed no urine arsenic concentration > 17 µg/l. In a review of the history for any possible exposure the patient revealed that he had prepared and consumed between 32 ounces to 48 ounces of an herbal tea made of "yellow root" per day for two years.

A sample of his own "tea" prepared at home contained 11 µg/l of arsenic. "Tea" was prepared from 10 samples of "yellow root" purchased at the municipal market. Each batch contained between 15 and 68 µg/l of arsenic. Four of the samples had 35 µg/l which were considered significant. There was no appreciable difference in arsenic content of samples prepared in the aluminum cooking vessel used by the patient and the same samples prepared in glass beakers.

DISCUSSION

Chronic arsenical intoxication commonly presents as a mild to severe sensorimotor polyneuropathy with weakness and often painful paresthesias in a stocking and glove

distribution.¹ Others² have described neurological involvement consisting of a toxic encephalopathy as well as rarely an optic nerve damage. Skin findings may be herpetiform lesions involving the trunk or hyperpigmented keratotic lesions confined to the palms and soles. Appearance of transverse Mee's lines in the nails are temporally related to ingestion. Hematologic abnormalities through bone marrow suppression can result in leukopenia with relative eosinophilia, anemia, thrombocytopenia and basophilic stippling.³

Acute ingestion is usually characterized by colicky abdominal pain, vomiting and diarrhea, occasionally with bloody stools. Acute renal failure, dehydration, exhaustion, shock and death have all been described.

"Yellow root" in several forms have been used since antiquity for its curative properties. It was used by American Indians and apparently concomitant use by early settlers in North America. More recently it has been used quite commonly in Atlanta for control of such chronic diseases as diabetes mellitus and hypertension. It may be used alone, or as an adjunct to more conventional medical therapy. It is available in small grocery stores as well as farmer's markets throughout the city.

Identification of the exact species from roots alone is difficult, but the most common variety seems to be *Xanthorrhiza simplicissima*. It is indigenous to the east coast of North America and is commonly found along stream banks of the more mountainous terrain. Another species of the Ranunculaceae fam-

ily, *Hydrastis canadensis*, is also identified as "yellow root" but it is usually called by its more common name "golden-seal." The *Xanthorrhiza* species has also been called "parsley-leaved yellow root," "Southern yellow root," "yellow wart," and "shrub yellow root."⁴ Through the medical, botanical and pharmaceutical literature the generic name appears as *Xanthorhiza*, *Xanthorrhiza* and *Zanthorhiza*. The species has been designated *simplicissima*, although it frequently appears in medical literature as *apiifolia*.

Alkaloids derived from the plant have been identified as jatrorrhizine, magnoflorine, and berberine, the last being in highest concentration and most active pharmacologically.⁵ Berberine has been shown in animals to produce transient falls of blood pressure⁵ and to antagonize acetylcholine and histamine.⁶

Plasma emission spectography was conducted on the plant, *Xanthorrhiza simplicissima*, at the University of Georgia soil and plant testing laboratory in Athens in August, 1977. This permitted the identification of many elements with phosphorus, potassium, calcium and magnesium found in highest concentration. Arsenic was not found as a natural constituent and thus an inherent concentrating ability of the plant was excluded.

It is inferred from the data available that at least random sampling of supplies of "yellow root" provided a potentially significant level of arsenic in the prepared "tea," and this probably represents accidental contamination of the soil and streams in the plants' natural

habitat. Possibly severe contamination could yield crops of "yellow root" with exceptionally high enough levels that in significant amounts acute arsenic poisoning could occur. It is believed that this patient's arsenic intoxication is secondary to chronic consumption of moderate levels of arsenic-containing "tea" with intermittent consumption of severely contaminated "tea" coinciding with the patient's Mee's lines and clinical history of episodic gastrointestinal symptoms.

With the recent increasing interest in "natural" foods as well as the popularity of outdoor camping and "back-packing" it is stressed that one be quite familiar with the inherent dangers and safety of plants, roots and berries before consumption. However, even with a keen knowledge of edible plants, industrial and agricultural contamination of such is not always evident. It is apparent that until full investigation is completed into the source of erratic but potentially hazardous contamination of this plant, the medical community should be aware of the dangerous possibilities which might arise in those who consume "wild" plants in general and those who use "yellow root tea" specifically.

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Editorials

SUGGESTIONS FOR AUTHORS

The NORTH CAROLINA MEDICAL JOURNAL welcomes the contribution of original articles — scientific, historic and editorial — provided that they have neither been published previously nor have they been simultaneously submitted for publication in other medical periodicals. Papers concerned with all aspects of the practice of medicine in North Carolina are particularly solicited.

In addition, in view of "The Copyright Revision Act of 1976," effective Jan. 1, 1979, letters of transmission to the editor should contain the following language: "In consideration of the North Carolina Medical Society's taking action in reviewing and editing my submission, the author(s) undersigned hereby transfers, assigns, or otherwise conveys all copyright ownership to the North Carolina Medical Society in the event that such work is published in the NORTH CAROLINA MEDICAL JOURNAL." We regret that transmittal letters not containing the foregoing language signed by ALL authors of the submission will necessitate delay in review of the manuscript.

Manuscripts

Two copies of the complete manuscript including legends, tables, references and glossy prints should be submitted. All copies should be typed on standard size paper, double-spaced with margins at least 3 cm; xerographic reproductions are preferred to carbon. A covering letter indicating the author responsible for correspondence and his address should accompany the manuscript.

Titles and Authors' Names

These should be provided on a separate page in duplicate giving the full title of the paper; a shorter title for the table of contents; the author(s) first name(s), initial(s) and academic degree(s); the name of the department and institution where the work was done and the name and address of the author to whom requests for reprints should be directed.

Abstracts

On a separate sheet, a double-spaced abstract of not more than 150 words should be submitted in duplicate. This should be factual telling of what was done, what was observed and what was concluded. A separate summary should not be provided.

Abbreviations and Symbols

Usage recommended in *STYLE MANUAL FOR BIOLOGICAL JOURNALS* (3rd ed., 1972) should be

followed insofar as possible. The first time an abbreviation is used, it should be explained. Generic names should be employed for drugs; if the author wishes to identify an agent by trade name, it should be inserted parenthetically at the first use of the term. Units of measurement should generally be metric including height and weight.

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References should be double-spaced and on a separate page(s) and should be numbered consecutively as they are cited in the text. The citations should conform to the style of the INDEX MEDICUS and the publications of the American Medical Association. The inclusive pages should be given but the number and day or month of the cited issue should not be included. Author(s) surname and initial(s); title and subtitle of the paper; journal or book in which it appeared; volume number, inclusive pagination and year for journal citation; title of book, editor if a collection, edition other than first, city, publisher, year and page of specific reference for books should be indicated. For example:

1. Villant GE, Sobowale NC, McArthur C: Some psychologic vulnerabilities of physicians. *N Engl J Med* 287:372-375, 1972.
2. Fox RC: *The Student-Physician: Introductory Studies in the Sociology of Medical Education*. Edited by Merton RK. Cambridge, Harvard University Press, 1957, pp 207-241.
3. Sniscak M: *Cumulative Cumulus Therapy*. Los Angeles, Exotic and Esoteric Press, 1984, p 81.

Unpublished data and personal communications should be alluded to in footnotes. Footnotes, however, should be limited and separated from the text by a line.

Tables and Illustrations

These should be typed in double-space on separate sheets. Arabic numerals should be used and a legend for each table submitted. Tables should be as succinct as possible. Lines should be omitted and symbols for units given with the column heading. Other symbols should be explained at the bottom of the table. Illustrations should be glossy, black and white prints or line drawings. The name of the first author, the figure number and the top of the figure should be written lightly in pencil on the back of each print. Legends are to be typed consecutively for each figure on a separate sheet. If illustrations have appeared elsewhere, per-

mission for reproduction from both the author and publisher must accompany the manuscript.

Reviewing

All manuscripts are read by the editor. Most of them are also reviewed by members of the editorial board or other referees. Constructive comments by these reviewers will be returned to authors who will usually be notified within one month of receipt of the manuscript of editorial action. Editorial correspondence should be directed to:

Editor

NORTH CAROLINA MEDICAL JOURNAL
300 S. Hawthorne Road
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CLINICAL PHARMACY — ONE NORTH CAROLINA PERSPECTIVE

Clinical pharmacy is centered on management of a patient's overall drug therapy rather than the distribution of the specific drugs taken. This concept developed in response to the need for professionals knowledgeable about drug therapy and applied

therapeutics who could contribute by fostering more effective, safer and cost effective drug therapy.

Most clinical pharmacy practitioners have advanced degrees, either a Doctor of Pharmacy (Pharm.D.) or a Clinical Master of Science. Graduates of both training programs generally complete nationally accredited residencies and/or clinical fellowships. This training process emphasizes rational therapeutics, drug literature evaluation, clinical research and clinical pharmacokinetics. The clinical pharmacy practitioner is one trained to look at therapeutics as a science as well as an art. It is this emphasis that allows him to make a valuable contribution to patient care which complements the physician's primary emphasis on the disease process.

I believe that a partnership between clinical pharmacy and medicine can contribute significantly to better patient care by:

- a. Making time available for consultations on problems related to drug therapy and drug interactions.¹⁻⁹
- b. Facilitating continuing education on clinical therapeutics.¹⁻⁸
- c. Providing assistance and consultation about drug

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therapy at discharge of hospital and nursing home patients.^{7, 8}

d. Encouraging financial savings through regular drug audits and utilization reviews.^{4-6, 10-12}

e. Attending hospital rounds for immediate consultations.^{3, 9-12}

f. Improving patients' attitudes toward medical services.¹³

In the last five years, practice linkages between clinical pharmacists and physicians have developed in several locations across North Carolina, primarily in hospitals and ambulatory clinics associated with the nine Area Health Education Centers (AHEC), hospitals affiliated with medical schools, and several primary care clinics. The services offered by clinical pharmacists may vary but, in general, will encompass those previously described. As an example, my practice involves the provision of information concerning drug therapy, product selection, pharmacokinetics and compliance during morning rounds and, upon request by the attending physician, consultations for both hospitalized and ambulatory patients.

One may expect that clinical pharmacy in North Carolina will continue to develop and that additional practices will be established as has occurred in other states, including South Carolina, where clinical pharmacists have practiced with physicians in the Family Practice Center at the Medical University of South Carolina in Charleston. From this beginning, relationships between clinical pharmacists and physicians have developed so that clinical pharmacy services have been included in several private family practice centers^{14,15} and in both non-university and university hospitals.¹⁶



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Given the increasing complexity of drug therapy, cost and risk of iatrogenic disease (4.1% of hospital admissions are related to adverse drug reactions),¹⁷ it may become increasingly important for physicians to seek the services of a clinical pharmacist as a consultant, not a physician extender.

Depending upon local need, the clinical pharmacist's practice can be based in a local hospital or as a part of a physician practice. The financial arrangements for the reimbursement of a clinical pharmacist have been carried out in a hospital setting where a number of models already exist.^{18,19} However, the situation for reimbursement in an ambulatory practice is not quite as clear-cut. The experience in South Carolina would indicate that reimbursement for clinical pharmacy services in ambulatory care settings is a solvable problem.^{14,15}

Pharmacy and medicine have historically had natural alliances. With an increasing focus on the patient rather than the drug product, clinical pharmacists seek to strengthen the alliances through effective communication and significant contributions to the clinical care of patients. Opportunities for expanded interaction are now presenting themselves in North Carolina. The two disciplines should pledge now that the decade of the '80s will see the emergence of true professional cooperation and support.

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The opinions expressed here are those of the author and are not intended to represent those of the North Carolina Area Health Education Centers Program, the Area L AHEC, the School of Pharmacy, or the University of North Carolina, Chapel Hill, North Carolina.

The author wishes to express his appreciation to his colleagues in Tarboro and across North Carolina for review of this work.

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ON CONSENSUS

In September 1977 the National Institutes of Health initiated consensus development conferences to bring together experts who would decide what is known, what should be known and what appears to be the most effective approach to a variety of medical problems. Attention has been directed to diagnostic procedures, drugs and devices. In short, experts are to reach consensus and to inform the medical multitude of their deliberations by publishing their conclusions in medical journals. More recently a report of a consensus conference was submitted to the *NORTH CAROLINA MEDICAL JOURNAL* for consideration for publication. Because the report was not particularly well written, gave no references for interested readers and offered no tables or diagrams, which would have been

extremely helpful, the report was returned with a request for appropriate revision. NIH's response was pained; after all they were doing this for the physicians of America and the *British Medical Journal*, the *Annals of Internal Medicine* and publications of the American Medical Association found their efforts acceptable.

Our judgment may have been wrong. Physicians of America, particularly readers of state medical journals, may be in need of reports about consensus. We did indicate we would be willing to publish some reports, but that we intended to maintain our objectivity about the matter. In retrospect, we should perhaps have considered the reports as simple handouts and assessed them as such. However, the majority is not always right and consensus cannot always be maintained. Remember when chocolate was bad for acne, that George Washington was bled by his physicians because of his pharyngitis and when Lyndon Johnson assumed consensus about his aims in Vietnam? NIH's efforts, nobly conceived though they be, smack overmuch of public relations hype and of a daddy-knows-best attitude ill suited to scientific endeavor.

J.H.F.

Correspondence

CLINICAL CENTER STUDY OF YOUNG PATIENTS WITH MALIGNANCIES

To the Editor:

The cooperation of physicians is requested in the referral of young patients with malignancies for studies being conducted by the National Cancer Institute, Pediatric Oncology Branch, at the Clinical Center, National Institutes of Health, Bethesda, Maryland.

Patients with acute leukemia, neuroblastoma, rhabdomyosarcoma, Ewing's sarcoma, osteogenic sarcoma, and non-Hodgkin's malignant lymphoma (especially Burkitt's lymphoma) are eligible for these studies. Patients selected for the program will generally have received no previous definitive therapy. Clinical trials involve evaluation of new combinations of chemotherapy, radiotherapy, surgery and biologic response modifiers. All patients accepted for admission to this branch may also be enrolled in studies of

optimal supportive care techniques (e.g., autologous bone marrow infusion, platelet and granulocyte transfusion, and laminar air flow protective isolation). Patients may be admitted with any extent (stage) of their disease, except in the case of neuroblastoma and rhabdomyosarcoma studies which are restricted to extensive disease.

There will be no cost to the patient for evaluation, treatment, travel (except for the first trip), hospitalization, or ambulatory care related to these clinical trials.

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YOU

The Telephone Manager

By Karen Zupko, Director
Department of Practice Management
Division of Medical Practice
American Medical Association

Did you ever stop to realize that the receptionist who answers the telephone is your office "personality" to the dozens of patients who call each day? She is.

And, did you know that ninety percent of all new patients phone an office and talk to her before ever being seen by you? They do.

But, your receptionist is not only important from a public relations standpoint; she can greatly affect the efficiency of your practice as well. For example, you could see more patients with fewer interruptions if your receptionist effectively screens calls, takes complete messages and holds them for "call backs."

But to do this well, without offending patients, your receptionist needs to be trained. Answering the telephone in your office is not as simple as answering calls at a retail establishment. And, while few physicians delegate even the most minor of clinical tasks to untrained personnel, most physicians routinely assign telephone answering (which has the potential for an even greater impact on the practice) with little or no instruction, or follow-up.

Take emergency calls for example. It's important that your medical assis-

tant-receptionist *know* what *your* concept of an emergency is; when such a call should be put through to you immediately and what to tell a patient if you're not in the office when the call comes in.

Your receptionist should know how to communicate to patients calling in with a minor problem that you are concerned and will call back. She shouldn't brush patients off with, "Well, he's awfully *busy* right now and I couldn't interrupt him with such a small problem. I'll try to have him call you." All patients consider their problems to be important, as you well know. Putting off patients hastily usually will mean repeated calls to ask if you're still busy — these calls only increase the already heavy telephone load and tax the patience of your harried receptionist.

Handling emergency calls and "call backs" are only a few of the situations your receptionist should be able to handle. What about the "no-show" patient calling for another appointment? Should your receptionist mention the previously missed appointment and, if so, how should she bring up the topic? How about requests for medical information from insurance representatives and attorneys? Does she know who your *real* friends are and what business associates to put through immediately? More than her common sense is re-

quired to deal with these situations. She must know what *YOUR* common sense dictates and what the medico-legal implications of her decisions are.

The AMA realizes the importance of medical assistant and receptionist training in this area and has developed a course: "YOU, the Telephone Manager," which has been conducted for over 4,000 medical office personnel nationwide, in cooperation with 45 county medical societies. All of these situations and more are discussed in depth. One of the brochures used in the course is available to individual physicians, "Talking With Patients," which outlines some of the conversational "dos" and "don'ts" for receptionists to follow.

There are a few things you can do, too, to "tame the office telephone:"

1. Don't just tell patients, "Call me anytime." Tell them to call, but explain that your office operates on a call-back system unless it is a real emergency and to cooperate by leaving a message.

2. Encourage your patients to communicate their medical problem to your assistant, so she can leave you a complete message and have their charts ready for you to consult when you return their call.

3. Return your calls! And try not to make call-backs at 5 P.M. If the patient does have a serious problem that you feel needs attention you'll have to attend that problem at an inconvenient time for you, and your patient may have been needlessly suffering all day with a problem they called about at 10 A.M.

You can try a call-back system most consultants recommend: Set aside several 10 or 15 minute call-back periods throughout the day. Your receptionist can dial one patient and have them on the line while you're talking to another. Or, make a few calls after seeing patients in two or three exam rooms to break up the routine. And, your receptionist will be able to tell patients,

"You can expect the doctor's call within the hour, will you still be at this number and will you please keep your line free?" The benefits here are obvious: you can eliminate some calls to endlessly ringing numbers with no one home and calls to patients who are phoning friends and relatives about their aches and pains resulting in busy signals ad infinitum.

4. Have an unlisted number in the office — for your use only. You can use this line to make outgoing calls to patients, physicians, the hospital, etc.

5. Be sure your telephone equipment is up-to-date. Patients may not tell you, but your receptionist likely receives repeated complaints of, "I have been trying to get through to you for the last hour . . ." Most telephone companies will do a free "busy signal" study to determine if your office has enough incoming lines. They'll be able to give you an exact count of how many busy signals come from your office number each day for a week long period of time. This study can take the guesswork out of ordering expensive equipment you don't need. By trying some of these suggestions you will begin to manage and control the office telephone — which now may be managing and controlling you.

To order, "Talking With Patients," OP-450; \$0.30; send remittance to Order Department, American Medical Association, P.O. Box 821, Monroe, Wisconsin 53566.

For more serious study, you may wish to order "Handling Patient Telephone Calls Effectively," OP-081; \$15, at the same AMA Order Department address above. A must for every new medical office receptionist and a good review for staff with years on the job. The cassette tape and accompanying worksheets demonstrate through role-playing how to deal with patients who want medical advice, requests for medical information, irate patients and emergencies.

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Drug dependence: Empirin with Codeine can produce drug dependence of the morphine type and, therefore, has the potential for being abused. Psychic dependence, physical dependence, and tolerance may develop upon repeated administration of this drug and it should be prescribed and administered with the same degree of caution appropriate to the use of other oral, narcotic-containing medications. Like other narcotic-containing medications, the drug is subject to the Federal Controlled Substances Act.

Use in ambulatory patients: Empirin with Codeine may impair the mental and/or physical abilities required for the performance of potentially hazardous tasks such as driving a car or operating machinery. The patient using this drug should be cautioned accordingly.

Interaction with other central nervous system (CNS) depressants: Patients receiving other narcotic analgesics, general anesthetics, phenothiazines, other tranquilizers, sedative-hypnotics, or other CNS depressants (including alcohol) concomitantly with Empirin with Codeine may exhibit an additive CNS depression. When such combined therapy is contemplated, the dose of one or both agents should be reduced.

Use in pregnancy: Safe use in pregnancy has not been established relative to possible adverse effects on fetal development. Therefore, Empirin with Codeine should not be used in pregnant women unless, in the judgment of the physician, the potential benefits outweigh the possible hazards.

PRECAUTIONS:

Head injury and increased intracranial pressure: The respiratory depressant effects of narcotics and their capacity to elevate cerebrospinal fluid pressure may be markedly exaggerated in the presence of head injury, other intracranial lesions or a pre-existing increase in intracranial pressure. Furthermore, narcotics produce adverse reactions which may obscure the clinical course of patients with head injuries.

Acute abdominal conditions: The administration of Empirin with Codeine or other narcotics may obscure the diagnosis or clinical course in patients with acute abdominal conditions.

Allergic: Precautions should be taken in administering salicylates to persons with known allergies; patients with nasal polyps are more likely to be hypersensitive to aspirin.

Special risk patients: Empirin with Codeine should be given with caution to certain patients such as the elderly or debilitated, and those with severe impairment of hepatic or renal function, hypothyroidism, Addison's disease, prostatic hypertrophy or urethral stricture, peptic ulcer, or coagulation disorders.

ADVERSE REACTIONS: The most frequently observed adverse reactions to codeine include light-headedness, dizziness, sedation, nausea and vomiting. These effects seem to be more prominent in ambulatory than in nonambulatory patients and some of these adverse reactions may be alleviated if the patient lies down. Other adverse reactions include euphoria, dysphoria, constipation, and pruritus.

The most frequently observed reactions to aspirin include headache, vertigo, ringing in the ears, mental confusion, drowsiness, sweating, thirst, nausea, and vomiting. Occasional patients experience gastric irritation and bleeding with aspirin. Some patients are unable to take salicylates without developing nausea and vomiting. Hypersensitivity may be manifested by a skin rash or even an anaphylactic reaction. With these exceptions, most of the side effects occur after repeated administration of large doses.

DOSE AND ADMINISTRATION: Dosage should be adjusted according to the severity of the pain and the response of the patient. It may occasionally be necessary to exceed the usual dosage recommended below in cases of more severe pain or in those patients who have become tolerant to the analgesic effect of narcotics. Empirin with Codeine is given orally. The usual adult dose for Empirin with Codeine No. 2 and No. 3 is one or two tablets every four hours as required. The usual adult dose for Empirin with Codeine No. 4 is one tablet every four hours as required.

DRUG INTERACTIONS: The CNS depressant effect of Empirin with Codeine is additive with that of other CNS depressants.

**Burroughs
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TOXIC ENCOUNTERS OF THE DANGEROUS KIND

Starting with this issue, we hope to bring you brief articles about clinical toxicology. The emphasis will be on practical topics of value to physicians and other health care personnel in North Carolina.

Prompt emptying of the stomach is indicated in most but not all ingestions of toxic substances. With this in mind, we urge you to instruct all your patients who have preschool children or who have preschool children visit them, particularly grandmothers, to purchase a 1-ounce bottle of Syrup of Ipecac. This inexpensive, efficient, safe emetic should not contain instructions on the label but the patient, parent or grandparent should be instructed to call the physician, the nearest emergency room or the poison center before giving the drug.

The dose for a child over the age of 1 year is

- 1) 15 ml (1 tablespoon) STAT followed by 1 or 2 8-ounce glasses of water.

- 2) If no emesis occurs in 20-30 minutes, the dose may be repeated once.

Children under 1 year of age should receive 10 ml once only, followed by a glass of water. Older children, adolescents or adults who require an emetic can take 30 ml of Syrup of Ipecac per dose for a maximum of two doses.

Relative contraindications to the use of Syrup of Ipecac are:

- 1) Ingestion of most hydrocarbons
- 2) Ingestion of caustics
- 3) Coma
- 4) Patient who has or is convulsing or who has ingested a drug which may cause convulsions, for example, camphorated oil.

Ronald B. Mack, M.D.
Chairman, Committee on Accidents
and Poison Prevention
North Carolina Chapter of the
American Academy of Pediatrics

Empyema

Empyema may be recognized in all cases by the following symptoms: In the first place, the fever does not go off, but is slight during the day, and increases at night, and copious sweats supervene, there is a desire to cough, and the patients expectorate nothing worth mentioning, the eyes become hollow, the cheeks have red spots on them, the nails of the hands are bent, the fingers are hot, especially their extremities, there are swellings in the feet, they have no desire for food, and small blisters (phlyctenae) occur over the body. These symptoms attend chronic empyemata, and may be much trusted to; and such as are of short standing are indicated by the same, provided they be accompanied by those signs which occur at the commencement, and if at the same time the patient has some difficulty of breathing. — Hippocrates. The Book of Prognostics.

Bulletin Board

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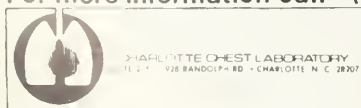
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WHAT? WHEN? WHERE? In Continuing Education

Please note: 1. The Continuing Medical Education Programs at Bowman Gray, Duke, East Carolina and UNC Schools of Medicine, Dorothea Dix, and Burroughs Wellcome Company are accredited by the American Medical Association. Therefore CME programs sponsored or cosponsored by these schools automatically qualify for AMA Category 1 credit toward the AMA's Physician Recognition Award, and for North Carolina Medical Society Category A credit. Where AAFP credit has been requested or obtained, this also is indicated.
 2. The "place" and "sponsor" are indicated for a program only when these differ from the place and source to write "for information".

January 9-10

4th Annual Outcome Workshop
 Place: UNC School of Medicine
 Fee: \$500
 Credit: 13 hours
 For Information: William B. Wood, M.D., (919) 933-2118

January 10

N.C. Chapter, American College of Physicians
 Place: UNC School of Medicine
 Fee: \$50

Credit: 6 hours
For Information: William B. Wood, M.D., UNC School of Medicine, (919) 933-2118

January 14

"Perspectives in Clinical Immunology"
Place: Pitt County Memorial Hospital, Greenville
Fee: \$15
Credit: 3 hours
For Information: F. M. Simmons Patterson, M.D., Assistant Dean for Continuing Medical Education, East Carolina University School of Medicine, Greenville 27834

January 21

"Wills, Trusts, Estate Planning for Physicians and Spouses"
Place: Carolina Trace Country Club, Sanford
Fee: \$6
Credit: 3½ hours
For Information: R. S. Cline, M.D., Sanford Medical Group, 555 Carthage Street, Sanford 27330. (919) 775-2111, ext. 219.

January 21-23

N.C. Alcoholism Research Authority
Place: Sheraton-Crabtree, Raleigh
Fee: \$50
Credit: 13 hours
For Information: William B. Wood, M.D., UNC School of Medicine (919) 933-2118

January 24

"Pulmonary Disease Update"
Place: Pitt County Memorial Hospital, Greenville
Fee: \$30
Credit: 6 hours
For Information: F. M. Simmons Patterson, M.D., Assistant Dean for Continuing Medical Education, East Carolina University School of Medicine, Greenville 27834

January 30-31

Clinical Urology
Place: Bowman Gray School of Medicine
Fee: \$100
Credit: 10 hours
For Information: Emery C. Miller, M.D., Assoc. Dean for Continuing Education, Bowman Gray School of Medicine, 27103

February 11

"Stress As A Factor in Illness"
Place: Pitt County Memorial Hospital, Greenville
Fee: \$15
Credit: 3 hours
For Information: F. M. Simmons Patterson, M.D., Assistant Dean for Continuing Medical Education, East Carolina University School of Medicine, Greenville, N.C. 27834

March 11

"Current Clinical Problems in Family Practice"
Place: Pitt County Memorial Hospital, Greenville
Fee: \$15
Credit: 3 hours
For Information: F. M. Simmons Patterson, M.D., Assistant Dean for Continuing Medical Education, East Carolina University School of Medicine, Greenville, N.C. 27834

March 11-14

Internal Medicine 1981
Place: Berryhill Hall, UNC School of Medicine
Fee: \$150
Credit: 25 hours
For Information: William B. Wood, M.D., UNC School of Medicine, (919) 933-2118

March 16-20

5th Annual Family Medicine Review Course
Place: Bowman Gray School of Medicine
Fee: \$275
Credit: 40 hours
For Information: Emery C. Miller, M.D., Assoc. Dean for Continuing Education, Bowman Gray School of Medicine, 27103

March 26-27

Physician Extenders
Place: Bowman Gray School of Medicine

Credit: 10 hours
For Information: Emery C. Miller, M.D., Assoc. Dean for Continuing Education, Bowman Gray School of Medicine, 27103

March 27-28

Frank R. Lock Symposium in Obstetrics and Gynecology
Place: Bowman Gray School of Medicine
Fee: \$150
Credit: 9 hours
For Information: Emery C. Miller, M.D., Assoc. Dean for Continuing Education, Bowman Gray School of Medicine

The items listed in the above column are for the six months immediately following the month of publication. Requests for listing should be received by "WHAT? WHEN? WHERE?", P.O. Box 27167, Raleigh 27611, by the 10th of the month prior to the month in which they are to appear. A "Request for Listing" form is available on request.

AUXILIARY TO THE NORTH CAROLINA MEDICAL SOCIETY

MEDICINE IN OLD SALEM: THE VIERLING HOUSE

On April 3, 1980, Old Salem, Inc., in Winston-Salem opened to the public the Dr. Samuel Benjamin Vierling House and Apothecary Shop. It was a pleasing bit of irony that the first visitor to the building was

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Dr. John Myracle, a physician from Lewisville, North Carolina.

The addition of this museum building has provided the Old Salem interpretive staff with the opportunity to explain some of the rigors and changes in late 18th and early 19th century life in backcountry North Carolina. Heretofore, the trades and crafts had been the primary focus of interpretation in Old Salem, but now the treatment of disease and the maintenance of health by the physician and surgeon, Dr. Vierling, also can be discussed. His reputation as a successful surgeon brought sick patients to Salem from surrounding towns and states for treatment; they recuperated in private homes under Dr. Vierling's care. This capable man, who trained in Berlin in the 1780s and arrived in Salem from Germany in 1790, greatly influenced the community life in addition to being the surgeon, physician and apothecary.

In 1802 he built what was then the largest dwelling in Salem on the highest spot in town. The high ceilings, large rooms, vaulted cellar and painted exterior details are in obvious contrast to the other exhibit buildings in the historic district.

For many years Dr. Vierling successfully treated his loyal patients and nursed many individuals through various epidemics. In 1817, however, he himself succumbed to a fever, leaving behind his wife and eight children. Because he died intestate, an inventory of his estate had to be taken; it lists household furnishings, books by title, medical instruments and apothecary equipment as well as more than 200 medicines. Except for a few specific pieces, presumably kept for family use, each item was sold at auction. This inventory and the auction price list, combined with the mass of documentary material about medicine in Salem and the Vierling family, have helped to provide insights into the interests, tastes, life and work of the man Samuel Benjamin Vierling. Great care was taken to follow this inventory closely in the furnishing of the dwelling spaces and in the re-creation of the apothecary shop.

The cellar, first floor and one second-floor bedroom are open to the public. In two other second-floor rooms, an extensive permanent exhibit, explaining the many aspects of the medical practice of the Moravians in North Carolina, is being prepared for opening in 1981-82.

Dr. Vierling also had a free-standing bake-oven in his yard, which one of the later occupants of the house expanded into a bake/wash house in 1831. This charming building is open during the summer months for demonstrations of fireplace cooking, candle dipping and apple drying.

A visit to the Vierling House provides an experience which differs from that of a visit to any other exhibit building in Old Salem because here the visitor sees the living and working environment of the professional man and his family in Salem. Even more important, the interpretation of medical practices and treatments, and the exhibition of an important collection of medical instruments, books and the objects and furnishings

CYCLAPEN-W® (cyclacillin)

Indications

Cyclacillin has less *in vitro* activity than other drugs in the ampicillin class and its use should be confined to these indications. Treatment of the following infections:

RESPIRATORY TRACT

Tonsillitis and pharyngitis caused by Group A beta-hemolytic streptococci
Bronchitis and pneumonia caused by *S. pneumoniae* (formerly *D. pneumoniae*)
Otitis media caused by *S. pneumoniae* (formerly *D. pneumoniae*) and *H. influenzae*
Acute exacerbation of chronic bronchitis caused by *H. influenzae**

*Though clinical improvement has been shown, bacteriologic cures cannot be expected in all patients with chronic respiratory disease due to *H. influenzae*.

SKIN AND SKIN STRUCTURES (integumentary) infections caused by Group A beta-hemolytic streptococci and staphylococci, non-penicillinase producers

URINARY TRACT INFECTIONS caused by *E. coli* and *P. mirabilis*. (This drug should not be used in any *E. coli* and *P. mirabilis* infections other than urinary tract.)

NOTE: Perform cultures and susceptibility tests initially and during treatment to monitor effectiveness of therapy and susceptibility of bacteria. Therapy may be instituted prior to results of sensitivity testing.

Contraindications Contraindicated in individuals with history of an allergic reaction to penicillins.

Warnings Cyclacillin should only be prescribed for the indications listed herein.

Cyclacillin has less *in vitro* activity than other drugs of the ampicillin class. However, clinical trials demonstrated it is efficacious for recommended indications.

Serious and occasional fatal hypersensitivity (anaphylactoid) reactions have been reported in patients on penicillin. Although anaphylaxis is more frequent following parenteral use, it has occurred in patients on oral penicillins. These reactions are more apt to occur in individuals with history of sensitivity to multiple allergens. There are reports of patients with history of penicillin hypersensitivity reactions who experienced severe hypersensitivity reactions when treated with a cephalosporin. Before penicillin therapy, carefully inquire about previous hypersensitivity reactions to penicillins, cephalosporins and other allergens. If allergic reaction occurs, discontinue drug and initiate appropriate therapy. Serious anaphylactoid reactions require immediate emergency treatment with epinephrine. Oxygen, I.V. steroids, airway management, including intubation, should also be administered as indicated.

Precautions Prolonged use of antibiotics may promote overgrowth of nonsusceptible organisms. If superinfection occurs, take appropriate measures.

PREGNANCY Pregnancy Category B. Reproduction studies performed in mice and rats at doses up to 10 times the human dose revealed no evidence of impaired fertility or harm to the fetus due to cyclacillin. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, use this drug during pregnancy only if clearly needed.

NURSING MOTHERS It is not known whether this drug is excreted in human milk. Because many drugs are, exercise caution when cyclacillin is given to a nursing woman.

Adverse Reactions Oral cyclacillin is generally well tolerated. As with other penicillins, untoward sensitivity reactions are likely, particularly in those who previously demonstrated penicillin hypersensitivity or with history of allergy, asthma, hay fever, or urticaria. Adverse reactions reported with cyclacillin: diarrhea (in approximately 1 out of 20 patients treated), nausea and vomiting (in approximately 1 in 50), and skin rash (in approximately 1 in 60). Isolated instances of headache, dizziness, abdominal pain, vaginitis, and urticaria have been reported. (See WARNINGS). Other less frequent adverse reactions which may occur and are reported with other penicillins are anemia, thrombocytopenia, thrombocytopenic purpura, leukopenia, neutropenia and eosinophilia. These reactions are usually reversible on discontinuation of therapy.

As with other semisynthetic penicillins, SGOT elevations have been reported.

As with antibiotic therapy generally, continue treatment at least 48 to 72 hours after patient becomes asymptomatic or until bacterial eradication is evidenced. In Group A beta-hemolytic streptococcal infections, at least 10 days' treatment is recommended to guard against risk of rheumatic fever or glomerulonephritis. In chronic urinary tract infection, frequent bacteriologic and clinical appraisal is necessary during therapy and possibly for several months after. Persistent infection may require treatment for several weeks.

Cyclacillin is not indicated in children under 2 months of age.

Patients with Renal Failure Cyclacillin may be safely administered to patients with reduced renal function. Due to prolonged serum half-life, patients with various degrees of renal impairment may require change in dosage level (see DOSAGE AND ADMINISTRATION in package insert).

Dosage (Give in equally spaced doses)

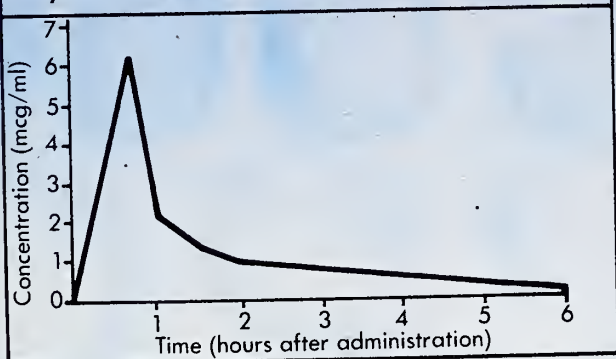
| INFECTION | ADULTS | CHILDREN* |
|-----------------------------|-------------------------|--|
| Respiratory Tract | | |
| Tonsillitis & Pharyngitis | 250 mg q.i.d. | body weight < 20 kg (44 lbs) 125 mg q.i.d. body weight > 20 kg (44 lbs) 250 mg q.i.d. |
| Bronchitis and Pneumonia | | |
| Mild or Moderate Infections | 250 mg q.i.d. | 50 mg/kg/day q.i.d. |
| Chronic Infections | 500 mg q.i.d. | 100 mg/kg/day q.i.d. |
| Otitis Media | 250 mg to 500 mg q.i.d. | 50 to 100 mg/kg/day† |
| Skin & Skin Structures | 250 mg to 500 mg q.i.d. | 50 to 100 mg/kg/day† |
| Urinary Tract | 500 mg q.i.d. | 100 mg/kg/day |

*Dosage should not result in a dose higher than that for adults depending on severity

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*Based on $T^{1/2}$ values for single oral doses of 500 mg cyclacillin tablet and 500 mg ampicillin capsule. Data on file, Wyeth Laboratories.

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Fewer episodes of diarrhea and rash than with ampicillin in studies to date.

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News Notes from the

UNIVERSITY OF NORTH CAROLINA- CHAPEL HILL SCHOOL OF MEDICINE AND NORTH CAROLINA MEMORIAL HOSPITAL

Dr. Kenneth M. Brinkhous, Alumni Distinguished professor of pathology, has been elected to senior membership in the National Academy of Sciences' Institute of Medicine.

Brinkhous is considered one of the world's authorities on blood coagulation research. He served for 26 years as chairman of the School of Medicine's Pathology Department and retired in June after 34 years with the university.

Dr. Floyd W. Denny, Alumni Distinguished professor of pediatrics was also elected to membership in the Institute.

A specialist in infectious diseases, Denny recently stepped down as chairman of pediatrics, a position he

held for 20 years, to return to fulltime teaching, research and patient care.

Another of the 42 newly elected institute members is Dr. C. Arden Miller, professor and chairman of maternal and child health in the School of Public Health and professor of pediatrics in the School of Medicine.

Miller serves as chairman of the board of the Alan Guttmacher Institute and is former vice chancellor for health affairs at UNC-CH. He is also a past president of the American Public Health Association.

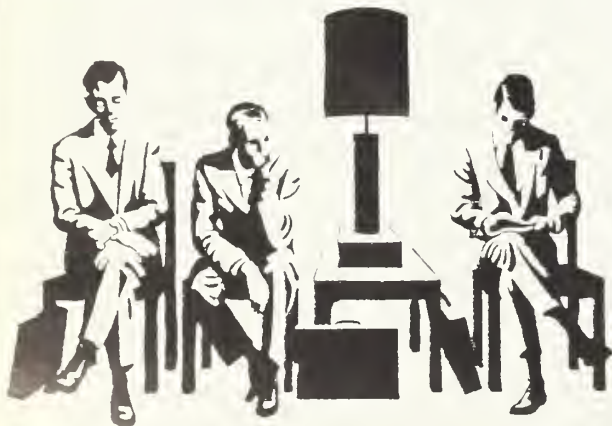
Institute membership, which is limited to 400, is based upon achievement in a professional field and the relevance of such achievement to the problems of medicine. Members also must demonstrate interest, concern and involvement with critical issues in health care, prevention of disease, medical education and research.

Election to the institute is both an honor and a working assignment. With their appointment, members make a commitment to devote significant time to work on institute committees engaged in a broad range of health policy studies.

Other institute members from the School of Medicine include Dr. Christopher C. Fordham III, dean emeritus and university chancellor; Dr. Stuart Bondurant, dean; Dr. Cecil G. Sheps, Taylor Grandy Distinguished professor of social medicine and vice chancellor emeritus of health sciences; and Dr. Carl Gottschalk, Kenan professor of medicine and physiology.

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AIR FORCE. HEALTH CARE AT ITS BEST.

370E036

The North Carolina Jaycee Burn Center, one of only 14 comprehensive burn care facilities in the country was dedicated November 23 in Chapel Hill. The 23-bed facility will be housed in a new support tower at North Carolina Memorial Hospital. The first patients will be moved into the facility shortly after the first of the year.

With a staff of close to 200, the center is expected to serve as a burn treatment, research and education center for a larger portion of the southeastern United States.

In addition to the 18,000 square feet of space dedicated to the burn center on the fifth floor of the new support tower, there is an operating room set aside for burn-related surgery.

* * *

Dr. Don W. Powell, professor of medicine, participated in the Scientific Workshop on Drug Development and Management of Acute Diarrheas for the World Health Organization Sept. 14-20 in Geneva, Switzerland.

* * *

Dr. John T. Sessions Jr., professor of medicine, joined a group of national leaders in digestive diseases to advise the National Institutes of Arthritis, Metabolism and Digestive Diseases on planning for research Sept. 14 in Bethesda, Md., at the National Institute of Health.

* * *

The Bonner Professorship in Pulmonary and Allied

Diseases has been established at the School of Medicine by a gift from Dr. M. D. "Rabbit" Bonner and Blanche Hanff Bonner of Greensboro.

Dr. Bonner received a certificate in medicine in 1928 from the then two-year medical school in Chapel Hill. Mrs. Bonner graduated from UNC-CH in 1932 with a degree in education.

As a college student at UNC-CH, M.D. Bonner received acclaim as a fast-running football player and acquired his nickname. He also played baseball for four years and was team captain his senior year.

He received his M.D. degree in 1930 from the University of Maryland School of Medicine.

Bonner was medical director and superintendent of the Guilford County Sanatorium at Jamestown from 1934 until the institution closed in 1955. He was in private practice as a pulmonary disease and allergy specialist from 1955 until he retired in December 1978.

Long respected for his leadership in the prevention and treatment of respiratory diseases, Bonner received the medical school's Distinguished Service Award in 1955.

* * *

The creation of the Dr. and Mrs. Sterling A. Barrett Distinguished Professorship of Ophthalmology was recently announced by Dean Stuart Bondurant.

"The chair endowed by Dr. Sterling A. Barrett and Pauline R. Barrett of Waterloo, Iowa, will be of great benefit to future generations of physicians and patients," Bondurant said. "Our Department of Ophthalmology is developing outstanding programs of teaching, patient care and research and is at a state in

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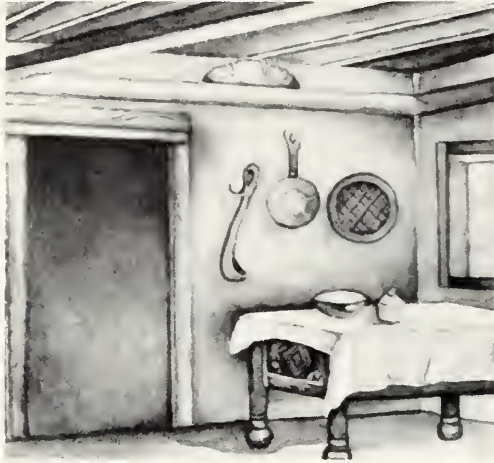
*Additional information available to the profession
on request.*

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700934

Yesterday's Folk Remedy:

A rye loaf in the rafters.



Early in this century in Central Europe, almost every farm family kept a loaf of moldy rye bread on one of the kitchen beams. When any family member was cut or bruised, it was an old custom to cut a thin slice from the outside of the loaf, mix it into a paste with water, and apply it to the wound with a bandage. It was believed that no infection would then result from the cut.'



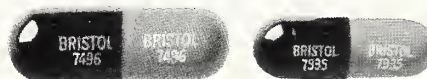
Today's Tradition: **Tegopen**[®] (cloxacillin sodium)

for the treatment* of
known or suspected
staphylococcal
infections such as:

- Acute sinusitis
- Furunculosis and carbuncles
- Impetigo
- Secondarily infected dermatitis
- Cellulitis
- Abscesses
- Infected sebaceous cysts

In serious, deep-seated
staph infections, 500 mg
q.i.d. dosage is
recommended.[†]

- Tegopen has been reported active against 96% of *Staphylococcus aureus*.²
- 80% of *S aureus* has been reported resistant to amoxicillin and ampicillin.[‡]
- 88% of *S aureus* has been reported resistant to penicillins G and V.[‡]
- Staph resistance to erythromycin may develop during a course of therapy.³



Available as 500-mg and 250-mg capsules
and Oral Solution 125 mg/5 ml.

Tegopen[®] (cloxacillin sodium) Today's Penicillin for Today's Physician

1. Florey HW, Chain E, Heatley NG, et al: *Antibiotics*. London, Oxford University Press, 1949, p 2.
2. Bac-Data Bacteriologic Report, Professional Market Research, 1978-1979. The clinical significance of *in vitro* data is unknown.
3. Erythromycin prescribing information (in *Physicians' Desk Reference*, ed 34. Oradell, NJ, Medical Economics Co, 1980) states that staph resistance may develop during treatment.

See brief summary of prescribing information on
an adjoining page.

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*Note: The choice of Tegopen should take into consideration the fact that it has been shown to be effective only in the treatment of infections caused by pneumococci, Group A beta-hemolytic streptococci, and penicillin G-resistant and penicillin G-sensitive staphylococci. If the bacteriology report later indicates that the infection is due to an organism other than a penicillin G-resistant staphylococcus sensitive to cloxacillin sodium, the physician is advised to continue therapy with a drug other than cloxacillin sodium or any other penicillinase-resistant semisynthetic penicillin.

†In serious, life-threatening infections, oral preparations of the penicillinase-resistant penicillins should not be relied on for initial therapy.

‡Not all isolates may have been tested using both discs.

Tegopen® (cloxacillin sodium)

Capsules and Oral Solution

Brief Summary of Prescribing Information

For complete information, consult Official Package Circular (12) 9/11/75

INDICATIONS

Although the principal indication for cloxacillin sodium is in the treatment of infections due to penicillinase-producing staphylococci, it may be used to initiate therapy in such patients in whom a staphylococcal infection is suspected. (See Important Note below.) Bacteriologic studies to determine the causative organisms and their sensitivity to cloxacillin sodium should be performed.

IMPORTANT NOTE

When it is judged necessary that treatment be initiated before definitive culture and sensitivity results are known, the choice of cloxacillin sodium should take into consideration the fact that it has been shown to be effective only in the treatment of infections caused by pneumococci, Group A beta-hemolytic streptococci, and penicillin G-resistant and penicillin G-sensitive staphylococci. If the bacteriology report later indicates the infection is due to an organism other than a penicillin G-resistant staphylococcus sensitive to cloxacillin sodium, the physician is advised to continue therapy with a drug other than cloxacillin sodium or any other penicillinase-resistant semi-synthetic penicillin.

Recent studies have reported that the percentage of staphylococcal isolates resistant to penicillin G outside the hospital is increasing, approximating the high percentage of resistant staphylococcal isolates found in the hospital. For this reason, it is recommended that a penicillinase-resistant penicillin be used as initial therapy for any suspected staphylococcal infection until culture and sensitivity results are known.

Cloxacillin sodium is a compound that acts through a mechanism similar to that of methicillin against penicillin G-resistant staphylococci. Strains of staphylococci resistant to methicillin have existed in nature and it is known that the number of these strains reported has been increasing. Such strains of staphylococci have been capable of producing serious disease, in some instances resulting in fatality. Because of this, there is concern that widespread use of the penicillinase-resistant penicillins may result in the appearance of an increasing number of staphylococcal strains which are resistant to these penicillins.

Methicillin-resistant strains are almost always resistant to all other penicillinase-resistant penicillins (cross-resistance with cephalosporin derivatives also occurs frequently). Resistance to any penicillinase-resistant penicillin should be interpreted as evidence of clinical resistance to all, in spite of the fact that minor variations in *in vitro* sensitivity may be encountered when more than one penicillinase-resistant penicillin is tested against the same strain of staphylococcus.

CONTRAINDICATIONS

A history of a previous hypersensitivity reaction to any of the penicillins is a contraindication.

WARNING

Serious and occasionally fatal hypersensitivity (anaphylactoid) reactions have been reported in patients on penicillin therapy. Although anaphylaxis is more frequent following parenteral therapy it has occurred in patients on oral penicillins. These reactions are more apt to occur in individuals with a history of sensitivity to multiple allergens.

There have been well documented reports of individuals with a history of penicillin hypersensitivity reactions who have experienced severe hypersensitivity reactions when treated with a cephalosporin. Before therapy with a penicillin, careful inquiry should be made concerning previous hypersensitivity reactions to penicillins, cephalosporins, and other allergens. If an allergic reaction occurs, the drug should be discontinued and the patient treated with the usual agents, e.g., pressor amines, antihistamines, and corticosteroids.

Safety for use in pregnancy has not been established.

PRECAUTIONS

The possibility of the occurrence of superinfections with mycotic organisms or other pathogens should be kept in mind when using this compound, as with other antibiotics. If superinfection occurs during therapy appropriate measures should be taken.

As with any potent drug, periodic assessment of organ system function, including renal, hepatic, and hematopoietic, should be made during long-term therapy.

ADVERSE REACTIONS

Gastrointestinal disturbances, such as nausea, epigastric discomfort, flatulence, and loose stools, have been noted by some patients. Mildly elevated SGOT levels (less than 100 units) have been reported in a few patients for whom pretherapeutic determinations were not made. Skin rashes and allergic symptoms, including wheezing and sneezing, have occasionally been encountered. Eosinophilia, with or without overt allergic manifestations, has been noted in some patients during therapy.

USUAL DOSAGE

Adults: 250 mg q 6h.
Children: 50 mg/kg/day in equally divided doses q 6h. Children weighing more than 20 kg should be given the adult dose. Administer in empty stomach for maximum absorption.

N.B. INFECTIONS CAUSED BY GROUP A BETA-HEMOLYTIC STREPTOCOCCI SHOULD BE TREATED FOR AT LEAST 10 DAYS TO HELP PREVENT THE OCCURRENCE OF ACUTE RHEUMATIC FEVER OR POST-GLomerulonephritis.

SUPPLIED

Capsules: 250 mg in bottles of 100. 500 mg in bottles of 100.
Oral Solution: 125 mg/5 ml in 100 ml and 200 ml bottles.

BRISTOL®

Division of Bristol-Myers Company
Syracuse, New York 13201

its development at which the Barretts' support will make an immense difference."

Dr. Barrett, formerly of Fayetteville, received the Bachelor of Science in Medicine from the School of Medicine in 1932. He received his M.D. degree from Jefferson Medical College in Philadelphia two years later.

* * *

A number of faculty members from the School of Medicine participated in the 7th International Conference on Calcium Regulating Hormones Sept. 4-9 in Estes Park, Colorado. Roy V. Talmage, Ph.D., surgery and pharmacology, president of the conference, and Paul Munson, Ph.D., pharmacology, served on the executive committee. Invited papers were presented by Cary W. Cooper, Ph.D., pharmacology, T. Kenney Gray, M.D., medicine, and Walter Stumpf, M.D., anatomy. Submitted papers were presented by Tai-Chan Peng, M.D., pharmacology, Gayle Lister, Ph.D., medicine, and Steven A. Grubb, M.D., orthopedics. Also attending was Svein U. Tolverud, D.M.D., M.D., dental research and pharmacology.

* * *

Dr. John A. Shallal, assistant professor of cardiothoracic surgery, presented a paper entitled "Hemodynamic Effect of Hypothermic-Pulsatile Cardiopulmonary Bypass" at the annual meeting of the Association for Academic Surgery, held in Birmingham, Alabama, Nov. 6-8.

* * *

Dr. Paul T. Frantz, assistant professor of cardiothoracic surgery, spoke on "Clinical and Experimental Evaluation of Left Ventriculoiliac Shunt Bypass During Repair of Lesions of the Descending Thoracic Aorta" at the annual meeting of the Southern Thoracic Surgical Association in White Sulphur Springs, West Virginia, Nov. 12-15.

* * *

Dr. Benson R. Wilcox, professor and chief of cardiothoracic surgery, gave a talk on "Surgical Anatomy of Double Outlet Right Ventricle with Situs Solitus and Atrioventricular Concordance" at the scientific sessions of the American Heart Association, held Nov. 17-20 in Miami Beach, Florida.

News Notes from the—

EAST CAROLINA UNIVERSITY SCHOOL OF MEDICINE

Dr. Elizabeth M. Stropnický has been appointed assistant professor of obstetrics and gynecology. Stropnický formerly was a physician with the Na-

tional Health Service Corps assigned to the eastern office of the N.C. Department of Human Resources. Since 1977 she has worked with the Improved Pregnancy Outcome Project in Greene and Wilson counties, the Improved Child Health Project in Northampton and Halifax counties and perinatal clinics in Pitt and Martin counties.

Stropnick received her undergraduate degree from Ripon College, Ripon, Wis., and her M.D. from Loyola University of Chicago-Stritch School of Medicine. She did postgraduate training in general medicine, general surgery and obstetrics at Bergen Pines County Hospital, Paramus, N.J., Veterans Administration Hospital, Hines, Ill., and St. Joseph's Hospital and Medical Center, Paterson, N.J.

* * *

Dr. Joseph E. Williamson has been named assistant professor of emergency medicine. He formerly was in private practice in family medicine in Valdese, N.C. Prior to that he was a family physician with the Tarboro Clinic.

Williamson received his undergraduate degree from Duke University and his M.D. from the University of North Carolina at Chapel Hill, where he also completed postgraduate training.

* * *

Dr. Gary I. Levine has been appointed physician at the Bethel Family Practice Clinic and instructor of family practice. The Bethel facility is a satellite unit of the medical school's Eastern Carolina Family Practice Center in Greenville.

Levine recently completed residency training at the University of Virginia's Lynchburg family practice program. He received an undergraduate degree from the University of Michigan, his M.D. from Wayne State University and did an internship in medicine at Ohio State University.

* * *

Dr. Edward G. Flickinger, a specialist in gastroenterologic surgery and surgical endoscopy, has been named associate professor of surgery. He formerly was assistant professor of surgery at the Case Western Reserve University School of Medicine and Cleveland Metropolitan General Hospital in Cleveland, Ohio.

His special area of research is mesenteric ischemia, a condition caused by inadequate blood flow to the stomach and intestines.

Flickinger was a Morehead Scholar at the University of North Carolina at Chapel Hill and received his medical degree from Duke University. He completed postgraduate training in general surgery at University Hospital in Cleveland where he was awarded an American Cancer Society fellowship in surgical oncology.

* * *

Dr. S. Jamal Mustafa, a specialist in cardiovascular research, has been named associate professor of pharmacology.

He formerly was associate professor at the University of South Alabama College of Medicine in Mobile. His research on blood flow in the heart is funded by a \$310,000 grant from the National Heart, Lung and Blood Institute.

Mustafa received his undergraduate, master's and doctorate degrees from Lucknow University in India. He was a postdoctoral fellow in toxicology at the Council of Scientific and Industrial Research in New Dehli and in physiology at the University of Virginia Medical School.

Mustafa is the author of "Cellular and Molecular Mechanisms of Coronary Flow Regulation By Adenosine" in the September issue of *Molecular and Cellular Biochemistry* and co-author of "Adenosine Receptors: Binding of Adenosine to the Crude Plasma Membrane Fraction of Dog Coronary and Carotid Arteries" in the September issue of the *Journal of Pharmacology and Experimental Therapies*.

* * *

Dr. P. Bruce Campbell, associate professor of medicine, and Dr. Seymour Bakerman, chairman of pathology and laboratory medicine, have received a \$2,500 grant from the Eli Lilly Company for research on "In-Vitro Evaluation of MANDOL versus other Antibiotics Using the Micromedia System."

* * *

Dr. Allen Bowyer, professor of medicine and chief of cardiology, presented "Heart Disease: Prevention and Risk Factor Modifications" and "Modern Methods of Diagnosis and Treatment of Coronary Heart Disease" at the Southern Union Medical-Dental Congress Oct. 30-31 in Gatlinburg, Tenn.

* * *

Dr. Robert S. Fulghum, associate professor of microbiology, presented "Chinchillas and Gerbils as Animal Models for Otitis Media" at the N.C. Society for Microbiologists meeting in Gatlinburg, Tenn., Nov. 13-15.

* * *

Several members of the Department of Anatomy participated in the meeting of the Southern Society of Anatomists in Augusta, Ga. Faculty presentations included: Dr. Hubert W. Burden, "Cellular Junctions in the Theca Externa of the Rat Ovary during the Pre-Ovulatory Period"; Dr. Arthur R. Diana, "Alteration of Caliber Spectra and Numerical Density Associated with Nerve Fibers in the Sympathetic Trunk of the Ketonuric Diabetic Chinese Hamster"; Dr. David R. Garriss, "Alterations in Uterine Blood Flow during Deciduoma Formation in the Pseudo-Pregnant Rat"; Dr. Max Poole, "Suppression of Gonadotropin Secretion by Hyper-Prolactinemia"; and Dr. Jack E. Brinn, "Fixation of Pancreatic Islets for Morphometric Analysis."

* * *

An article by Dr. C. Tate Holbrook, assistant pro-



Tail of whipworm
(*Trichuris trichiura*)

Vermox[®]: the only anthelmintic highly effective against whipworm.

| | Cure Rate | Egg Reduction |
|------------------------|---------------|---------------|
| VERMOX [®] | 68% * | 93% ** |
| Mintezol ¹ | 35% † | 45% †† |
| Antiminth ² | Not Indicated | |
| Povan ³ | Not Indicated | |

Also highly effective against roundworm and hookworm

Since whipworm, roundworm and hookworm are all soil-borne helminths, mixed infections are not uncommon. Only one anthelmintic exhibits high efficacy rates for all three nematodes: whipworm—68%; roundworm—98%; hookworm—96%. That agent is VERMOX[®].

Please see following page for Summary of Prescribing Information.

Broad-spectrum coverage in mixed helminthic infections

Vermox[®] TABLETS
(mebendazole)



JANSSEN PHARMACEUTICA INC.
New Brunswick, N.J. 08903

Committed to research...
because so much remains to be done.

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JPI-023



**Broad-spectrum
coverage in mixed
helminthic infections**

TABLETS
Vermox[®]
(mebendazole)

Contraindications VERMOX is contraindicated in pregnant women (see: Pregnancy Precautions) and in persons who have shown hypersensitivity to the drug.

Precautions PREGNANCY: VERMOX has shown embryotoxic and teratogenic activity in pregnant rats at single oral doses as low as 10 mg/kg. Since VERMOX may have a risk of producing fetal damage if administered during pregnancy, it is contraindicated in pregnant women.

PEDIATRIC USE: The drug has not been extensively studied in children under two years; therefore, in the treatment of children under two years the relative benefit/risk should be considered.

Adverse Reactions Transient symptoms of abdominal pain and diarrhea have occurred in cases of massive infection and expulsion of worms.

Dosage and Administration The same dosage schedule applies to children and adults. The tablet may be chewed, swallowed or crushed and mixed with food. For the control of pinworm (enterobiasis), a single tablet is administered orally, one time.

For the control of roundworm (ascariasis), whipworm (trichuriasis), and hookworm infection, one tablet of VERMOX is administered, orally, morning and evening, on three consecutive days.

If the patient is not cured three weeks after treatment, a second course of treatment is advised. No special procedures, such as fasting or purging, are required.

* Mean cure rate of VERMOX[®] in treating whipworm; cure rate range of 61-75%. Data on file at Janssen Pharmaceutica Inc.

** Mean egg reduction of VERMOX[®] in treating whipworm; egg reduction range of 70-99%. Data on file at Janssen Pharmaceutica Inc.

† Rollo, I.M.: Drugs used in the chemotherapy of helminthiasis, in Goodman, L.S.; and Gilman, A. (eds.): *The Pharmacological Basis of Therapeutics*, ed. 5. New York, Macmillan, 1975, p. 1034.

†† Miller, M.J.; Krupp, I.M.; Little, M.D.; Santos, C.: Mebendazole an effective anthelmintic for trichuriasis and enterobiasis. *JAMA* 230 (10): 1412-1414, Dec. 9, 1974.

1. Registered trademark of Merck Sharp and Dohme.
2. Registered trademark of Roerig.
3. Registered trademark of Parke-Davis.



JANSSEN PHARMACEUTICA INC.
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*Committed to research...
because so much remains to be done.*

fessor of pediatrics, appeared in a recent issue of *Medical and Pediatric Oncology*. The article is titled "Successful Chemotherapy for Childhood Metastatic Embryonal Cell Carcinoma of the Testicle: A Preliminary Report."

* * *

Dr. Donald Hoffman, associate professor of pathology and laboratory medicine, published "Dog and Cat Allergens: Urinary Proteins or Dander Proteins?" in the October issue of *Annals of Allergy*.

* * *

Dr. Richard S. Marx, assistant professor of medicine, presented "A Comparison of Indirect Fluorescent and Proteus Agglutinating Antibody Titers for Rocky Mountain Spotted Fever in a Group of Sixth Graders" at a November meeting of the Kentucky-Tennessee chapter of the American Society of Microbiologists.

* * *

Dr. Jon B. Tingelstad, chairman of the Department of Pediatrics, has been appointed to a three-year term on the Task Force on Recent Advances for the American Academy of Pediatrics. The task force is responsible for the development of educational materials covering recent advances in the field.

* * *

Dr. Robert Deepe, surgery resident, has received a \$20,000 fellowship from the Charles E. Culpepper Foundation to support research on kidney and liver transplantation.

* * *

Dr. James L. Mathis, chairman of psychiatry, presented "Psychosomatic Mechanisms" at a November meeting of the N.C. Neuropsychiatric Association in Winston-Salem.

News Notes from the—

DUKE UNIVERSITY MEDICAL CENTER

Dr. William G. Anlyan, Duke University's vice-president for health affairs, received the Abraham Flexner Award for Distinguished Service to Medical Education at the 91st annual meeting of the Association of American Medical Colleges (AAMC). The presentation was made October 28 in Washington, D.C.

The Flexner Award, established in 1958, is given by the AAMC each year to recognize "an extraordinary individual who has contributed to medical schools and to the medical community as a whole." Anlyan was honored for his outstanding contributions as a medical education administrator.

Since Anlyan became dean in 1964, a library and

communications center and a comprehensive cancer center have been built. In May of this year, the \$95-million North Division opened to patients.

Anlyan has been a major participant in medical education affairs at the national level. In the 1960s he was influential in determining the future course of the AAMC, serving on its executive council from 1964-71 and leading the association as chairman of its assembly in 1970-71. He was also a member and chairman of the Board of Regents of the National Library of Medicine.

* * *

A group of Duke family medicine educators received a \$229,062 contract from the National Health Service Corps (NHSC) for a pilot project designed to give primary care physicians practical experience in areas short of doctors. The 16-month contract provides 70 primary care residents — family physicians, general internists and general pediatricians — with one-month rotations in geographic areas having less than one physician per 3,500 population.

"The rotations provide residents with some reality testing," according to Dr. Katharine Munning, assistant project director. "It lets them compare what they are going to have to do clinically with the training they are getting in their residency program. For example, a resident may do a rotation in a small southern town and discover he needs training in community leadership and small town government." The student could then return to the residency program and take elective courses which would fill that gap.

Other Duke faculty participating in the project include Dr. Samuel W. Warburton, who is serving as project director, and Drs. James Bobula and George Parkerson.

* * *

Dr. Sigmund Tannenbaum, chief resident in the Division of Urology, spent a year and a half organizing a seminar in honor of his father. The resulting A. Jack Tannenbaum Advanced Medical Education Seminar was held November 12 in Greensboro.

The elder Tannenbaum, a Duke University trustee, has practiced cardiology and internal medicine in Greensboro for more than 40 years.

Speakers were: Dr. Timothy Lane, infectious disease specialist on the teaching staff of Moses H. Cone Memorial Hospital; Dr. Suydam Osterhout, professor of medicine at Duke; and Dr. F. William Blaisdell, professor and chairman of surgery at the University of California — Davis School of Medicine. A workshop on practical application of intensive care unit data management rounded out the day.

* * *

Studies conducted at Duke show that certain drugs used to treat infections among patients undergoing peritoneal dialysis lose up to 75% of their effectiveness before the patients ever receive them. The result is that infections can be unnecessarily prolonged or

possibly become more severe before alternative forms of therapy are substituted, according to Peter Zwadyk, M.D., associate professor of pathology and microbiology at Duke and chief of microbiology at the Durham VA hospital.

The research was presented in a paper delivered at the 20th Interscience Conference on Antimicrobial Agents and Chemotherapy held in New Orleans.

"Patients whose vascular systems cannot withstand the strain of hemodialysis sometimes contract abdominal infections, and antibiotics are often mixed with the dialysis solutions as a form of therapy," Zwadyk said. "We became curious about whether the antibiotics were still effective when mixed with dialysis fluids after we noticed a cloudy precipitate in the fluid. We found that five of the most commonly used drugs — the cephalosporins and vancomycin — remain stable, that seven others — the aminoglycosides and the penicillins — decline in potency from 25% to 75% within 24 hours."

Zwadyk said the findings have already changed the way the affected drugs are administered to peritoneal dialysis patients at Duke and the VA medical centers. He plans to publish the study as soon as possible.

* * *

Scientists at the medical center believe they can now explain a major part of the disease process responsible for diabetic retinopathy, the leading cause of blindness in the United States. The research was reported by Dr. Myron Wolbarsht, professor of ophthalmology and biomedical engineering, to the fall meeting of the American Physiological Society held in Toronto.

The researchers propose that because high blood sugar increases the oxygen requirements of cells in the eye and elsewhere in the body, the arteries expand to carry more oxygen-laden blood. As the blood vessels in the back of the eye swell with blood and become more fragile, they grow into the normally clear gel that helps the eyeball maintain its spherical shape, often leaking blood. The damaged vessels can also kill the light-sensitive retina, which lines the inside of the eye, pulling it away from its source of nourishment when the gel shrinks.

Wolbarsht's collaborators in the work were Drs. Maurice B. Landers, professor of ophthalmology, and Einar Stefansson, a physician from Iceland who is currently working on a Ph.D. in physiology at Duke.

The finding is neither a cure nor a treatment for the condition, they say, but it may offer important suggestions about how diabetic retinopathy can be prevented or better controlled in the future.

Specifically, the research suggests that it may be much more important for diabetics to control their average blood sugar level than was previously thought. "Diabetics can have a lot of problems if their glucose gets too low, so many of them keep the level a little higher than normal to have a cushion against blacking out or going into a coma. It now seems that this 'cushion' is not good because of its effects on the

eye and other organs and perhaps it would be better to keep the average as low as possible," Wolbarsht said.

In addition to keeping one's blood sugar carefully regulated, therapy may be as simple as breathing oxygen from time to time, particularly at night when the oxygen consumption of the retina is highest. Like the new disease theory, however, the oxygen sniffing therapy has yet to be proven.

* * *

F. Ross Porter, former superintendent of Duke Hospital and an early developer of Duke's hospital administration program, died in Durham on November 2. He was 72.

Porter joined the hospital staff as an assistant superintendent in 1930, the year Duke Hospital opened. At the request of Dr. Wilburt C. Davison, the medical school's first dean, Porter and Vernon Altwater, the other assistant superintendent, put together a training program for hospital administrators that eventually became Duke's Department of Health Administration.

Porter was superintendent of the hospital, director of the health administration program, and professor of health administration from 1949-59. Subsequently, he worked as a hospital consultant for the Foreign Aid Agency of the U.S. State Department and for the U.S. Public Health Service.

With the opening of the North Division, Duke University Hospital has the only burn unit in the state with laminar flow units, which surround patients with a stream of germ-free air.

Laminar flow units serve the four intensive care beds in the seven-patient unit. Each unit consists of a clear plastic curtain surrounding the bed: warm air, passing through extremely fine filters, flows downward over the patient and exits at the bottom of the curtain. Bacteria have no chance to settle.

Only four or five hospitals in the country are equipped with laminar flow units.

The Duke unit is self-contained, providing multidisciplinary physical and psychological care for the burn victim. A small operating room is included, so that the patient need not leave the clean, controlled environment.

* * *

Wolfgang K. Joklik, professor and chairman of the Department of Microbiology and Immunology, received a \$138,397 grant from the National Institute of Allergy and Infectious Diseases for the study of "Macromolecular Synthesis in Virus-Infected Cells." He also received a \$151,483 grant from the National Institute of Allergy and Infectious Diseases for the study of "Basic Mechanisms in Infectious Diseases."

* * *

Harold R. Silberman, professor in the Department

TEGA-TUSSIN - CIII

FOR MAXIMUM RESULTS IN CONTROL OF COUGHS DUE TO THE COMMON COLD

EXCELLENT TASTE

Each 30cc contains:

| | |
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| Dihydrocodeinone Bitartrate | 25 mg. |
| WARNING: May be habit forming | |
| Chlorpheniramine Maleate | 10 mg. |
| Phenylephrine Hydrochloride | 30 mg. |
| Potassium Guaiacolsulfonate | 500 mg. |

TEGA-TUSSIN: Provides chlorpheniramine maleate, the anti-histamine with virtually no side effects.

TEGA-TUSSIN: Provides potassium gulacol-sulfonate, an excellent expectorant.

TEGA-TUSSIN: Provides phenylephrine HCL, an effective respiratory mucosal, pulmonary decongestant, mild bronchodilator and vaso-pressor.

DOSAGE: Adults - One teaspoonfull every 3 to 4 hours. Children over 6 years - 1/2 Adult dose. Not recommended for children under 6 without very close supervision by physician.

AVAILABLE ON RX ONLY

MORE DETAILED INFORMATION AVAILABLE ON REQUEST

WE FEATURE ONE OF THE MOST COMPLETE LINE OF INJECTIBLES IN THE SOUTH-EAST AT THE VERY BEST PRICE, CONSISTENT WITH QUALITY.

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ORTEGA PHARMACEUTICAL CO., INC.: JACKSONVILLE, FLORIDA 32205

of Medicine, received a \$155,957 award from the National Cancer Institute for his project, "Cooperative Studies in Cancer Therapy."

* * *

Lowell A. Goldsmith, professor of medicine, received a \$59,338 grant and a \$72,644 grant from the National Institute of Arthritis, Metabolism and Digestive Diseases. The first grant supports a project titled "Structural Proteins in Genetic Defects of Epidermis" and the second will be used to study "Monoclonal Antibodies to Human Epidermis."

* * *

Saul M. Schanberg, professor of pharmacology, was awarded a \$174,204 grant from the National Institute of Mental Health for his project on "Neurotropic Drugs, Hormones and Brain Function."

* * *

Dr. James R. Urbaniak, professor of orthopaedic surgery, was elected president of the Eastern Orthopaedic Association at its annual meeting. Fourteen hundred orthopaedic surgeons from the eastern seaboard belong to the association.

* * *

Dr. Michael A. Petty, a psychiatric resident at Duke

since July, 1975, collapsed behind the wheel of his car and died on October 8. An autopsy report attributed the death to "sudden death syndrome." Dr. Petty specialized in child psychiatry.

News Notes from the—

BOWMAN GRAY SCHOOL OF MEDICINE WAKE FOREST UNIVERSITY

The Bowman Gray School of Medicine and North Carolina Baptist Hospital have begun moving into the medical center's newest addition, the Focus Building.

Construction of the Focus Building climaxes a 15-year expansion program which will be completed at a cost of more than \$72 million.

One element of the program yet to be completed is the renovation of 218,000 square feet of space in the medical school and 35,000 square feet in the hospital.

The 178,000-square-foot Focus Building provides acutely needed space for academic and administrative offices and for basic support units. The move into the building opens up space in other areas of the hospital and medical school for expanding programs in research, teaching and patient care.

* * *

Surgeons at the Bowman Gray/Baptist Hospital Medical Center are salvaging blood which once would have been thrown away and are using it to contribute to the recovery of many surgical patients.

Because of new technology, which is having an impact nationwide, doctors at the medical center can recycle blood lost by patients during certain kinds of surgery. The lost blood can be returned to a patient in a matter of minutes.

The blood salvaging techniques are faster, less expensive and eliminate any chance of infection caused by a donor's blood. They put less pressure on supplies of donated blood, thus making more donated blood available to patients whose surgery is not suitable for blood salvaging.

The new techniques also be used after a surgery patient has returned to his room, while bleeding may still be occurring.

The medical center's experience with blood salvaging, having used it in more than 200 operations, is to be reported in "The Annals of Thoracic Surgery."

Blood salvaging also is taking place in the emergency room to benefit patients who suffer severe chest injuries.

Blood which once was left in the heart-lung machine after open heart surgery is being salvaged and returned to the patients. Even the method for priming

Remember
ZYLOPRIM[®]
the original (allopurinol)
100 and 300 mg
Scored Tablets

The name
Zyloprim
is now
imprinted on
each tablet.

Burroughs Wellcome Co.
Research Triangle Park
North Carolina 27709

the heart-lung pump has been changed to avoid priming with donated blood.

* * *

David Rickelton, a native of Charlotte, has been named as North Carolina Baptist Hospital's vice president for professional services. The hospital is Bowman Gray's principal teaching hospital.

Rickelton comes to the hospital from the position of administrator of Doctors Hospital in Cullman, Ala.

He holds the B.S. degree in pharmacy from the University of North Carolina at Chapel Hill and the Master of Hospital Administration degree from the Medical College of Virginia. He is a registered pharmacist in North Carolina.

Rickelton previously served as assistant director for outpatient services at Moses Cone Hospital in Greensboro.

* * *

Researchers at Bowman Gray's Cancer Center have shown that one of medicine's most potent anti-cancer drugs can be made more effective by changing the way it is administered.

Studies involving patients with advanced cancers has demonstrated a good response to the new way of administering the drug vincristine, even among pa-

tients who previously had ceased to be helped by the drug.

For purposes of the research, a good response was defined as a reduction in the size of a tumor of at least 50%.

The researchers' intent was to extend the time that vincristine is in the body. They accomplished that by slowly infusing the drug into the body rather than giving the drug by quick injection.

The infusion technique requires 120 hours to get a given amount of vincristine into the body.


Starting a year ago, 30 patients with advanced cancers were selected to receive vincristine by slow infusion. They were patients who were not responding well to any treatment. When the initial phase of the treatment ended, 11 of those patients had responded well to the infusion method.

* * *

A surgical team from the Bowman Gray/Baptist Hospital Medical Center spent a week in November assisting with surgery at Holy Cross Hospital in Leogone, Haiti.

The trip was arranged at the invitation of the North Carolina Diocese of the Episcopal Church and the Diocese of Haiti.

The team included a plastic surgeon, two surgical



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residents, a resident in anesthesia, a nurse anesthetist and an operating room nurse. A neurosurgeon headed the team.

Without the help of visiting surgeons, the small Holy Cross Hospital cannot perform major surgery. The team performed five or six major surgical procedures per day.

* * *

Dr. Carlos E. Agudelo, assistant professor of medicine (rheumatology), has been elected secretary-treasurer of the North Carolina Rheumatism Society.

* * *

Dr. Vardaman M. Buckalew, professor of medicine and physiology, has been appointed to a one-year term on the Ad Hoc Committee on Restricted Gifts for Research Development Funds of the American Heart Association, North Carolina Affiliate, Inc.

* * *

Dr. Courtland H. Davis Jr., professor of neurosurgery, has been elected vice president of the American Academy of Neurological Surgery. He also has been elected a member of the Board of Directors and treasurer of the Piedmont Medical Foundation, Inc.

* * *

Patricia A. Gibson, instructor in pediatric neurology (social work), has been appointed to the Task Force for the International Year of Disabled Persons.

* * *

Bill Glance, director of Bowman Gray's Office of Information and Publications, was presented the Distinguished Merit Award of the Association of American Medical Colleges, Group on Public Affairs, during the AAMC's annual meeting. The award recognizes high achievement and service in medical public relations.

* * *

Dr. Frederick W. Glass, associate professor of surgery (emergency medicine), has been re-elected to a two-year term as president of the North Carolina Chapter of the American College of Emergency Physicians.

* * *

Dr. Joseph E. Johnson III, professor and chairman of the Department of Medicine, has been elected vice-chairman of the Residency Review Committee for Internal Medicine of the American Medical Association.

* * *

Dr. Julian F. Keith, professor and chairman of the Department of Family and Community Medicine, has been appointed a member of the Task Force for North Carolina's White House Conference on Aging.

Dr. David L. Kelly Jr., professor of neurosurgery, has been re-elected to the board of directors of the American Association of Neurological Surgeons as the representative to the Congress of Neurological Surgeons.

* * *

Dr. Manson Meads and Dr. Richard Janeway have been elected to the Executive Council of the Association of American Medical Colleges. Dr. Meads, director of the Bowman Gray/Baptist Hospital Medical Center, was elected as the council's Distinguished Service Member. Dr. Janeway, dean of the Bowman Gray School of Medicine, was re-elected to the council from the association's Council of Deans.

* * *

Dr. Quentin N. Myrvik, professor and chairman of the Department of Microbiology and Immunology, has been appointed to the Scientific Review Committee for the Lung Division of the National Heart, Lung and Blood Institute.

* * *

Dr. C. Glenn Sawyer, professor of medicine (cardiology), has been elected a governor (representing North Carolina) of the American College of Cardiology.

* * *

Dr. Earl Schwartz, assistant professor of surgery (emergency medicine), has been re-elected to the Board of Directors of the North Carolina State Chapter of the American College of Emergency Physicians.

* * *

Dr. James F. Toole, professor and chairman of the Department of Neurology, has been appointed a consultant for the Food and Drug Administration and appointed a member of the Planning Subcommittee of the National Institute of Neurological and Communication Disorders and Stroke.

AMERICAN ACADEMY OF FAMILY PHYSICIANS

Dr. Robert H. Shackelford of Mount Olive has been re-elected to a second term as speaker of the Congress of Delegates of the American Academy of Family Physicians. The congress is the academy's governing body. Shackelford is an assistant professor of family practice at several medical schools, including Duke University and the University of North Carolina, and has been president of the N.C. Academy of Family Physicians and chairman of its Commission on Public Health and Scientific Affairs. He is a 1947 graduate of the Bowman Gray School of Medicine of Wake Forest University.

Another North Carolina physician, Dr. George T. Wolff of Greensboro, was elected to a second term as treasurer of the academy. He is associate professor of family practice at the UNC Medical School and director of the Family Practice Center, a residency

training program, at the Moses H. Cone Memorial Hospital in Greensboro. Wolff has been president of the N.C. Academy of Family Physicians and was chairman of its Scientific Assembly Committee for three years. He received his medical degree from Jefferson Medical College at Thomas Jefferson University, Philadelphia, in 1952.

AMERICAN ACADEMY OF OPHTHALMOLOGY

Dr. Lawrence White Moore Jr., staff ophthalmologist and assistant director of medical education at McPherson Hospital in Durham, has received the

American Academy of Ophthalmology's 1980 Honor Award for service to the profession. The award was presented in Chicago at the academy's annual meeting in November. Moore, an honor graduate of Virginia Polytechnical Institute, received his medical degree from Duke University and completed his residency at the University of North Carolina School of Medicine and McPherson Hospital in 1970. In addition to his hospital duties, Moore is a clinical associate professor of ophthalmology at the UNC School of Medicine and director of ophthalmology at Dorothea Dix Hospital in Raleigh.

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Month in Washington

Until mid-January the most-used word in the nation's capital will be transition although to the purist, the word "interregnum" is preferable to "transition" — for indeed there is an interval, a suspension of administrative function, between two successive reigns. Reagan people — or allegedly Reagan people — will swarm about the town with knowing looks, tapping briefcases bulging with position papers and bright new ideas for a brave new government.

Reagan has been supplied with detailed position papers on health policy for use in charting his administration's course next year. A transition team is working with President Carter and his aides on the transfer of power. The proposed federal budget for the fiscal year that starts next October is almost completed. And now the Reagan officials will have their whack at it. Usually a new administration doesn't do much tampering with the carryover budget.

To lay the groundwork for early action, Reagan appointed six people to review the federal structure with an eye to lower level appointments and possible reorganizations. Elizabeth Dole, wife of Sen. Robert Dole (R-Kan.) and former member of the Federal Trade Commission, will handle human resources including the Health and Human Services Department, the Housing and Urban Development Department and the Department of Education.

Reagan has indicated opposition to the separate Department of Education that was established to carry out a campaign pledge by President Carter. And there has been talk about reorganizing the HHS Department in order to put more emphasis on health and less on welfare.

Reagan's health advisory group, headed by William Walsh, M.D., president of Project Hope, has proposed a pool arrangement for private health insurance companies under which insurance would be made available to people whose disabilities make them uninsurable at present. They would pay premiums which would be subsidized, if necessary, by the rest of the insured population.

Other recommendations included:

- Allowing Medicare-Medicaid beneficiaries to choose private coverage with premiums paid by the government.

- Examining the \$1 billion renal dialysis program to determine if services could be provided at less cost.

- Expanding home health benefits with the aim of reducing Medicare-Medicaid payments for hospital and nursing home care.

- Decentralizing health planning.

The Heritage Foundation, a conservative think tank with strong ties to the Reagan administration, has come up with a blueprint that includes some sweeping changes in health programs.

The Foundation calls for examination of methods of "phasing out Medicaid and Medicare in their present form, pursuant to the development of systems relying on 'vouchers' and a more competitive private market."

Foundation President Edwin Feulner, said the Foundation's "Mandate for Leadership" study, a year in the making, is a basic set of conservative policy recommendations "which I hope the Reagan administration will give its careful and serious consideration." He said the study represents the opinions of more than 250 experts from government, universities, think tanks, business, and the legal profession.

The author of the report on the HHS Department was David Winston, an aide to Sen. Richard Schweiker (R-Pa.).

The HHS section proposed a freeze on all HHS consulting contracts pending a full review of their usefulness, noting that the department "is very heavily dependent on such outside consultants."

Turning to the Health Care Financing Administration (HCFA), which runs Medicare and Medicaid, the report said HCFA has considerable difficulties managing fiscal intermediaries (e.g. insurance carriers) through which Medicare and Medicaid programs are administered. Furthermore, it finds it difficult to restrict health cost increases because of the retrospective, cost-based reimbursement system for these programs.

Immediate search for means to improve the administration of Medicaid and Medicare was urged. Containment policy should be turned away from a controls and guidelines approach to a process of reimbursement reform, deregulation, and improved competition, according to the study.

A significant recommendation was that "attention should be given, however, to the reduction or elimination of the Professional Standards Review (PSRO) program."

The Foundation study also noted that the National Institutes of Health has been criticized for duplicating work in the private sector. "Private organizations should be encouraged to carry out more development work, reserving NIH for areas with little commercial promise. Methods could be sought for altering the tax

treatment of private research to encourage private involvement in more risky, innovative fields."

The report added that "bureaucratic problems of NIH might be reduced by strengthening the director's authority to improve budgeting and planning, and by analyzing the cost structure with a view to reducing indirect costs." Another significant proposal was for a thorough review of federal involvement with Health Maintenance Organizations (HMOs) with a possible six-month moratorium on all new program awards and extensions.

* * *

House-Senate conferees have deleted from the Medicare-Medicaid amendments package a majority of the provisions that had been disputed by the medical profession.

The victory for the health providers was highlighted by elimination of the controversial Senate provision that would have restricted Medicaid beneficiaries' freedom of choice of institution by allowing states to specify which hospitals beneficiaries could attend.

Advocates of the provision had claimed that states could save money by channeling Medicaid patients to lower-cost facilities, but opponents, including the AMA, warned that such restrictions raised the spectre of a two-tier system of care.

The amendments constituted the health section of the budget "reconciliation" bill Congress has been working on in an attempt to bring federal spending in line with Congress' own, self-imposed budget limitations.

The conference committee's agreement on the total budget "reconciliation" was expected to clear the way for final Congressional approval. There had been a question whether Congress would be able to work out a compromise between House and Senate versions of the bill during the "lame duck" session, but the lawmakers were anxious to resolve their differences in order to avoid what would have been a shattering blow to the Congressional budget process through failure to act.

One of the major provisions removed from the Medicare-Medicaid list was the proposal for sweeping changes in the way Medicare reimburses hospitals. This was the heart of the longstanding plan by Sen. Herman Talmadge (D-Ga.) to pay hospitals by groups, size and class on a prospective basis.

Another Talmadge provision dropped would have changed the criteria for determining reasonable charges for physicians' services and looked toward state-wide uniformity in fee allowances. This provision also would have restructured the payment basis for hospital-associated physicians.

A controversial, administration-supported provision to boost Medicare payments for Health Maintenance Organizations (HMOs) to 95% of the prevailing level was stripped from the measure.

* * *

Hospitals won their fight against a cost-cutting

amendment that would have eliminated the current Medicare 8.5 percent differential payment for nursing costs.

The conferees also abandoned a proposal for liberalized conditions for reimbursement for chiropractic services, and voted down a provision for expanded payment for community mental health centers.

* * *

The AMA has taken strong exception to two draft documents on health planning and has asked Health and Human Services Secretary Patricia Harris to recall them immediately.

The documents outline standards and measurements to be used in evaluating Health Systems Agencies, State Health Planning and Development Agencies, and the Health Planning Program as a whole. While recognizing the need for federal monitoring of the program, the AMA said the two drafts "represent an unduly extensive imposition of federal standards on the health planning process."

The AMA pointed out that the proposed standards are derived from the 1978 National Health Planning Guidelines and the draft National Health Goals, neither of which yet has legal standing. "The wholesale incorporation of these guidelines and goals into a review system to establish norms, the deviation from which will subject an agency to sanctions, transforms the guidelines and goals into federally-mandated requirements."

The Association stressed that planning authority and direction should be focused at the local level and suggested that any future proposals consider greater flexibility for state and local agencies in establishing indicators to measure their progress.

* * *

Contending there is a "totally inadequate" national awareness of prescription drug abuse, the Director of the National Institute of Drug Abuse (NIDA) warned the problem could reach the magnitude of alcohol and tobacco as health hazards.

Federal officials estimated seven million Americans use legal drugs for non-medical purposes. William Pollin, M.D., NIDA Director, said misuse of prescription drugs is insidious and shows no signs of decreasing.

Dr. Pollin spoke at a Washington, D.C., conference sponsored by the federal drug agencies in conjunction with the American Medical Association, the Pharmaceutical Manufacturers Association and the National Association of State Alcohol and Drug Abuse Directors.

Peter Bensinger, Administrator of the Drug Enforcement Administration, said 250 million to 300 million dosage units are diverted each year. "A few physicians and pharmacists interested in illicit gain have caused a major national problem," he said. Federal investigators found one physician making \$200,000 a month from dealing illegally in prescription

drugs, he said. One physician's desk drawer contained more than \$1 million in cash.

The government officials conceded they could not estimate accurately how much of the problem stems from crooked physicians and pharmacists and how much from theft, from "professional patients," or other means.

Joseph Skom, M.D., Chairman of the AMA Committee on Dangerous Drugs, said the most important task is continuing medical education of physicians on

proper prescribing. The overwhelming majority of the problem is caused by a "small minority" of physicians, Dr. Skom told the conference.

The AMA has drafted model state legislation to facilitate a crackdown on physician misconduct, he noted, with half the states to date providing all or part of the recommended code. Dr. Skom pointed to a six-fold increase in disciplinary actions against physicians since 1971, suggesting that this has helped in the fight against prescribing abuse. The AMA believes in "firm prosecution" of guilty physicians, he said.

Mitral Stenosis

It is necessary then, to have the agreement of a large number of symptoms to make a diagnosis of the stenoses of the right orifices, it is necessary that we have a face of a color like ecchymoses, that we have a very marked enlargement of the veins and particularly those of the liver; that the volume of this organ be increased; that breathlessness be marked and of long standing. All the signs in a word, which could indicate an affection of the right cavities, dilated because of a narrowing of the orifices and these things to be the characteristics of the pulse which in this case is less irregular than that in narrowing of the right orifices, but less regular, however, than in the natural state. The obscurity which surrounds the signs of the narrowing of the right orifice, does not entirely disappear, when we try to recognize the imperfect obliteration of the left auriculo-ventricular orifice. Moreover, besides the general signs of heart disease, which are constantly found in this latter condition, as well as in the former, because there is almost always an aneurysmal complication, there are certain signs which allow us to recognize the affection in question.

Among these there is a certain thrill (bruissement) difficult to describe, perceptible when the hand is applied to the precordial region, a thrill which comes without doubt, from the difficulty which the blood finds in passing through an orifice which is not large enough for the quantity of blood which it is supposed to let pass. This same thrill is also recognizable, but is much less marked, by the hand, which studies the phenomena of the pulse. This characteristic is not the only one, by which the pulse shows the existence of a narrowing of the left orifice; it is more irregular in the case of narrowing of the right orifice, but less irregular than when the aortic orifice is changed. Moreover, it shows that neither the force, the hardness, nor the fullness, because the quantity of blood, which the left ventricle puts out is proportional to that which it receives from the left auricle, which does not empty completely, because the action of the ventricle is not so vigorous since it is only feebly stimulated by the small quantity of blood. — Jean Nicholas Corvisart, 1806.

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Index to Advertisers

| | | | |
|--|------------|---|---|
| Abbott Laboratories | 7 | Jedco Services | 24 |
| Air Force | 56 | Lilly, Eli & Company | 57 |
| Anderson-Clayton Foods | 46 | Mandala Center | 23 |
| B A S | 41 | Medical Liability Mutual Insurance Co. | 2 |
| Blue Cross & Blue Shield of N.C. | 19 | Mutual of Omaha | 13 |
| Boots Pharmaceuticals, Inc. 9, 10, 11, 12 | | Ortega Pharmaceutical Company | 65 |
| Bristol Laboratories | 58, 59, 60 | Plyler Financial Services | 44 |
| Bristol-Myers Professional Products ... 4, 5, 16, 17 | | Ramada Inn Downtown | 18 |
| Burroughs Wellcome Company | 50, 66 | Roche Laboratories | Cover 2, 1, 26, 27, 28, 49, Cover 3, Cover 4 |
| Charlotte Chest Laboratory | 52 | Smith, Kline & French | 25 |
| Charlotte Treatment Center | 74 | Triangle X-Ray Company | 53 |
| Children's Home Society of N.C. | 6 | U.S. Army | 8 |
| Crumpton, J. L. & J. Slade, Inc. | 15 | Willingway, Inc. | 67 |
| Fellowship Hall, Inc. | 43 | Winchester Surgical Supply Co. | |
| Golden-Brabham Insurance Agency | 20 | Winchester-Ritch Surgical Co. | 6 |
| Holly Hill Hospital | 69 | Wyeth Laboratories | 54, 55 |
| Janssen Pharmaceutica | 62, 63 | | |

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North Carolina MEDICAL JOURNAL

The Official Journal of the NORTH CAROLINA MEDICAL SOCIETY □ □ □ February 1981, Vol. 42, No. 2

Original Articles

- Spontaneous Brainstem Hematoma — Analysis of Cases Verified by Computed Tomography** 99
Alfred A. DeMaria, Jr., M.D., and
Thomas W. Farmer, M.D.

- Alcohol Abuse: Diagnosis and Treatment** 103
John Ingram Walker, M.D.

Special Article

- The Physician and Spouse.**
I. Physician, Know Thyself —
And Thy Mate 106
W. P. Wilson, M.D., and D. B.
Larson, M.D.

Mini-Features

- Toxic Encounters of the Dangerous Kind** 110
Ronald B. Mack, M.D.

Editorials

- The Physician at Risk — At Home and Abroad** 113
Cost Control: On Keeping One's Hand In 115

Practice Management

- Getting the Most Out of Your Collection Agency** 117

Bulletin Board

- New Members of the State Society** 119
What? When? Where? 120
Auxiliary to the North Carolina Medical Society 123
News Notes from the East Carolina University School of Medicine .. 127
News Notes from the University of North Carolina-Chapel Hill School of Medicine and North Carolina Memorial Hospital 132
News Notes from the Bowman Gray School of Medicine of Wake Forest University 136
Month in Washington 138
In Memoriam 142
Classified Ads 143
Index to Advertisers 144

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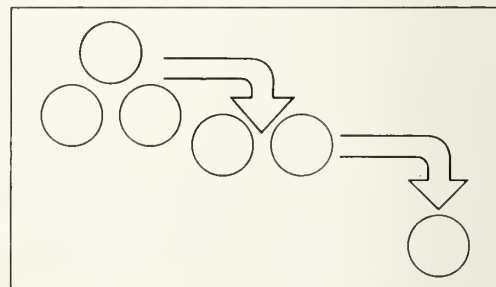
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February 1981, Vol. 42, No. 2

ORIGINAL ARTICLES

- Spontaneous Brainstem Hematoma — Analysis of Cases
Verified by Computed Tomography** 99
Alfred A. DeMaria, Jr., M.D., and
Thomas W. Farmer, M.D.
- Alcohol Abuse: Diagnosis and Treatment** 103
John Ingram Walker, M.D.

SPECIAL ARTICLE

- The Physician and Spouse. I. Physician, Know Thyself —
And Thy Mate** 106
W. P. Wilson, M.D., and D. B. Larson, M.D.

MINI-FEATURES

- Toxic Encounters of the Dangerous Kind** 110
Ronald B. Mack, M.D.

EDITORIALS

- The Physician at Risk — At Home and Abroad** 113
- Cost Control: On Keeping One's Hand In** 115
- Practice Management** 117

BULLETIN BOARD

- New Members of the State Society** 119
- What? When? Where?** 120
- Auxiliary to the North Carolina Medical Society** 123
- News Notes from the East Carolina University School
of Medicine** 127
- News Notes from the University of North Carolina-Chapel
Hill School of Medicine and North Carolina Memorial
Hospital** 132
- News Notes from the Bowman Gray School of Medicine of
Wake Forest University** 136

MONTH IN WASHINGTON 138

IN MEMORIAM 142

CLASSIFIED ADS 143

INDEX TO ADVERTISERS 144

Contents listed in *Current Contents/Clinical Practice*

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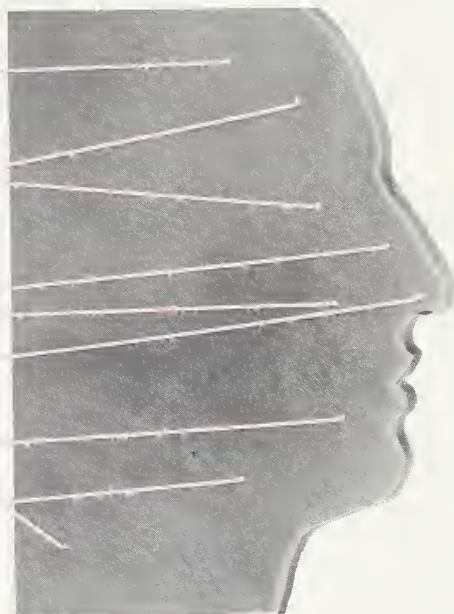
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PRESIDENT'S NEWSLETTER

NORTH CAROLINA MEDICAL SOCIETY

NO. 9

FEBRUARY 1981

Greetings:

Many members of the Medical Society Auxiliary had a busy couple of days in Raleigh last week under the leadership of their President, Ann Rollins of Greensboro. A legislative training program was provided to them Wednesday by John Dees, Chairman of the Committee on Legislation, and Tom Adams, Assistant Executive Director, Public Affairs of the Society staff. Then Thursday at 7:15 a.m.!!!, the Auxiliary hosted a breakfast for the North Carolina Legislators. During the day many Auxiliary members visited the General Assembly and their respective Legislators. We are appreciative of their interest, support, and efforts for good government.

"A Night at the Top," a reception at the Capital City Club, hosted by your Medical Society for the North Carolina Legislators, was well attended on Thursday night by most of the members of the Legislature and many physician members and their spouses. I appreciate such an excellent physician representation from across the state. This activity was organized by John Dees and your Committee on Legislation and coordinated in an excellent fashion by Tom Adams.

Liz Kanof and the Committee on Communications with the able assistance of Kathy Jones, Executive Assistant, Communications of the Society staff, provided an excellent informative program for over 130 physicians who attended the Leadership Conference on Friday. The Leadership Conference for February 1982 will be in Winston-Salem. Plan to attend! It is worthwhile!

I would remind you that while the Legislative Reception was nice and the physicians and legislators visited with each other, the meaningful activity takes place in the local setting. The Republican precinct meetings are on Thursday, March 5, 1981, and the Democratic precinct meetings are on Thursday, March 26, 1981. Both will meet at your local polling place. I would encourage your attendance in your neighborhood.

One part of the cost containment legislation proposed by President Carter contained mechanisms to limit hospital based physician compensation. This legislation, as you know, was defeated. Recently, the bureaucracy, through HCFA, has issued regulations on reimbursement of hospital based physicians. I urge all hospital based physicians to talk with their hospital administrators about these regulations. We all need to keep abreast of these regulations as they will ultimately affect all of us.

Your Executive Council, in its usual good fashion, met for nine hours Friday and Saturday to consider many issues affecting medicine. I am pleased to report an excellent report from your Finance Committee Chairman, Ernest Spangler. NO DUES INCREASE will be recommended to your House of Delegates this May. A dues increase may be necessary in 1983, unless you aid in increasing membership! Share the responsibility and cost of organized medicine by encouraging your fellow physicians, particularly new practitioners, to join the Society.

The Council approved a management study of the Medical Society by the national firm of Booz, Allen, & Hamilton, Inc. A similar appraisal was carried out in 1969. This study will begin promptly and will be reported to the Council upon completion.

Many of the Society membership with good staff support are working on legislative issues. The Legislature, by resolution in spite of the critical News and Observer editorial, requested the Medical Society to supply a physician to be in the Legislative Building Tuesday, Wednesday, and Thursday. This is ongoing as of February 9th. Please let us know if you will come to Raleigh for one day for this important public service. Needless to say, we will accept all volunteers, but would expect for those serving to be able to deal with emergency situations, CPR, etc., should they arise. We, of course, have the legislative update incoming WATS line 1-800-662-7216. Please call for an update. The legislative contact physicians will be called upon frequently with the many issues facing medicine in the Legislature. Please try to stay informed and up-to-date.

Mr. Keith Bulla of the Diversion Investigative Unit, State Bureau of Investigation, P. O. Box 11243, Greensboro, N.C. 27409, addressed the Council. Some of his points you all need to consider in your practice to prevent problems. (1) Pay careful attention to availability of prescription pads. Don't leave them lying around in examining rooms, etc. (2) Record in your patient records all refills and medications prescribed. (3) Be careful who in your office is approving refills---this is a particularly explosive area. (4) Refilling of prescriptions when covering for partners and other physicians requires careful attention and recording. (5) Long term therapy of all kinds, particularly tranquilizers, sedatives, and pain medications, must be reviewed frequently with careful documentation to prevent problems. (6) Discuss with the patients the need or lack of need for medication. Not every patient encounter requires a prescription. Often explanation and reassurance are the most effective modes of treatment.

On the alternate delivery systems, HMOs/IPAs, multiple areas of activity continue. The Blue Cross staff continues to work on development of their physician's plan, while waiting approval of the Insurance Commissioner. The Legislature has not acted upon the Prepaid Commission's report. The request for \$9 million contained in this report was not in the Advisory Commission Budget. The new Fortune Magazine, received this week, has the inside cover and first page devoted to HMO presentation by the Insurance Company of North America.

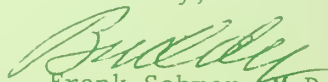
I spoke to a meeting in Raleigh last Friday as part of the voluntary effort program to over 100 employer representatives on cost effective physician/patient relationships. There is concern and interest in the cost of health care!

Dr. Sandra Greene of the Blue Cross and Blue Shield Corp. presented to your Council utilization data information. This data has been developed from their claims file with reference to utilization by county of residence. There is no identification of facility or provider to-date. Striking differences are present in these reports. Many questions will need to be answered with reference to the data. The Blue Cross and Blue Shield Corp. is developing this data in response to demands by employer policyholders for explanation of increasing cost in health care.

DO IT NOW---REPORT YOUR CME ACTIVITIES TO THE HEADQUARTERS OFFICE. FOR THOSE OF YOU IN THE 1978-1980 REPORTING CYCLE, IT IS URGENT IN ORDER TO AVOID AN INTERRUPTION IN YOUR SOCIETY MEMBERSHIP.

LEST YOU FORGET---DEADLINE FOR SUBMISSION OF RESOLUTIONS FOR THE MAY 1981 ANNUAL MEETING IS MARCH 9, 1981. ANY RESOLUTION IDEAS STILL IN INFORMATIVE STAGES SHOULD BE COMMITTED IN WRITING AND SUBMITTED TO THE HEADQUARTERS OFFICE FROM YOUR SOCIETY OR FROM AN INDIVIDUAL DELEGATE BY THAT DATE.

Sincerely,


Frank Sohmer, M.D.
President

YOU DESERVE THE BEST

When it comes to professional liability coverage in North Carolina, one company stands out as best — Medical Liability Mutual Insurance Company of North Carolina — your physician-owned company.

BEST BECAUSE:

We were the *only* company willing to provide coverage in North Carolina when *all* other competitors were refusing to renew any existing insureds or issue any new business during the malpractice crisis of 1975.

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As a direct writer representing only you, MLMIC's overhead and administrative expenses consistently average less than 50% of competitors. This leaves more money out of each premium dollar to pay losses.

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An open invitation to
our friends and col-
leagues of the N.C.
Medical Association
and the Medical As-
sociation of Georgia

Something New...In Old Charleston...In the Spring ... the 1981 SCMA Annual Meeting

- New and expanded continuing medical education credit program at the Medical University of South Carolina, including patient participation.
- National leaders in medical practice and research.
- Specialty society sessions; other opportunities to meet your colleagues.
- Gardens, golf, tennis, beaches, charm of Charleston, all in their Springtime glory. Many fun events.
- No registration fee for SCMA members.

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S.C. MEDICAL ASSOCIATION ANNUAL MEETING & EXHIBITION
The New Charleston Sheraton — May 13-17

Pioneers in Medicine For the Family



BOOTS PHARMACEUTICALS, INC.

Operating in the U.S. since 1977, Boots is a world-wide leader in pharmaceutical research and manufacture. Boots has directed its efforts toward providing products useful in the practice of family medicine.

Some of our better known products are Lopurin™, Ru-Tuss® and Ru-Vert®. This advertisement highlights four other products particularly useful for the family.

F-E-P CREME® • SU-TON® • TWIN-K® • TWIN-K-CI™



**For the Majority of
Steroid-Responsive Dermatoses*
Seen in Family Practice**

F-E-P CREME®

(Iodochlorhydroxyquin—Pramoxine HCl—Hydrocortisone)

The 4 in 1 Corticosteroid Cream

Anti-inflammatory, antifungal, antibacterial actions, and, uniquely, a topical anesthetic for immediate relief of the itching or burning that frequently accompanies skin problems. One size (½ ounce), one strength for ease of prescription.

*This drug has been evaluated as possibly effective for these indications. See prescribing information on last page of this advertisement.

For the Geriatric Patient

SU-TON®

Liquid Tonic

A pleasant tasting prescription tonic containing iron, vitamins, minerals, an analeptic and 18% alcohol. Ideal for those who may benefit from vitamin deficiency prevention. Just one tablespoon before each meal.

Each 45 ml (3 tablespoonfuls) contains:

| | |
|---|-----|
| Pentylentetrazol. | 30 |
| Niacin | 50 |
| Vitamin B-1 | 10 |
| Vitamin B-2 | 5 |
| Vitamin B-6 | 1 |
| Vitamin B-12 | 3 |
| Choline | 100 |
| Inositol | 50 |
| Manganese (as Manganese Sulfate) | 1 |
| Magnesium (as Magnesium Sulfate) | 2 |
| Zinc (as Zinc Sulfate) | 1 |
| Iron (as Ferric Pyrophosphate, Soluble) | 22 |
| Alcohol | |

See prescribing information on last page of this advertisement.



Potassium Supplementation Improved Compliance...

TWIN-K®

15 ml supplies 20 mEq of potassium ions as a combination of potassium gluconate and potassium citrate in a sorbitol and saccharin solution.

The good tasting potassium supplement is designed for prophylactic and therapeutic use with diuretics and adrenocorticoids. Pleasant taste and convenient dosage aid patient compliance.

The organic salt of potassium can be given as a liquid without producing significant gastric symptoms and without an untoward effect on the mucosa of the small intestine.¹

¹W. B. Saunders, Textbook of Medicine, 15th Ed. 1979, W.B. Saunders Co., Philadelphia, page 1959.

In Cases with Chloride Deficiency...

TWIN-K-CI™

Each 15 ml supplies 15 mEq of potassium ions and 4 mEq of chloride ions as a combination of potassium gluconate, potassium citrate, and ammonium chloride in a sorbitol and saccharin solution.

The good tasting potassium supplement with chloride

- In hypokalemic hypochloremic alkalosis, chloride ions are required. Twin-K-CI is specially formulated to be a good tasting chloride containing potassium supplement.
- Contains no potassium chloride. Twin-K-CI is a carefully balanced combination of organic potassium salts plus ammonium chloride.
- In hypochloremic patients, potassium should be provided as the chloride salt, or chloride ion must be made available in some other form, such as ammonium chloride or sodium chloride.¹

See prescribing information on last page of this advertisement.



F-E-P CREME

DESCRIPTION

F-E-P Creme is a topical water soluble anti-inflammatory, anesthetic preparation intended for treatment of various inflammatory skin disorders. The drug contains the following active ingredients:

| | |
|-------------------------|------|
| Iodochlorhydroxyquin | 3.0% |
| Pramoxine Hydrochloride | 0.5% |
| Hydrocortisone | 1.0% |

INDICATIONS AND USAGE

Based on a review of this drug by the National Academy of Sciences-National Research Council and/or other information, FDA has classified the indications as follows: "Possibly" effective. Contact or atopic dermatitis; impetiginized eczema; nummular eczema; infantile eczema; endogenous chronic infectious dermatitis; stasis dermatitis; pyoderma; nuchal eczema and chronic eczematoid otitis externa; acne urtica; localized or disseminated neurodermatitis; lichen simplex chronicus; anogenital pruritus (vulvae, scroti, ani); folliculitis; bacterial dermatoses; mycotic dermatoses such as tinea (capitis, cruris corporis, pedis), moniliasis, intertrigo. Final classification of the less-than-effective indications requires further investigation.

Pramoxine Hydrochloride promptly relieves pain and itch. This compound may be used safely on the skin of those patients sensitive to the "caine" type local anesthetics.

CONTRAINDICATIONS

Hypersensitivity to F-E-P Creme, or any of its ingredients or related compounds, lesions of the eye; tuberculosis of the skin; most viral skin lesions (including herpes simplex, vaccinia and varicella).

WARNINGS

This product is not for ophthalmic use.

In the presence of systemic infections, appropriate antibiotics should be used.

USE IN PREGNANCY

Topical steroids have not been reported to have an adverse effect on pregnancy. However, fetal abnormalities have been produced in pregnant laboratory animals that have been exposed to large doses of topical corticosteroids. Drugs of this class should not be used extensively during pregnancy.

PRECAUTIONS

F-E-P Creme may be irritating to the skin in some patients. If irritation occurs discontinue therapy. Staining of clothes or hair may also occur with use of this preparation. Although systemic toxicity has not been reported with this drug, adrenal pituitary suppression is possible, especially when the drug is used extensively or kept under an occlusive dressing for a prolonged period. Iodochlorhydroxyquin can be absorbed through the skin and interfere with thyroid function tests. Therapy with this preparation should stop at least a month before performance of these tests. The ferric chloride test for phenylketonuria (PKU) can be positive if F-E-P Creme is on the diaper or in the urine.

Prolonged use of this drug may result in an overgrowth of non-susceptible organisms requiring appropriate therapy.

ADVERSE REACTIONS

Skin rash or hypersensitivity may occur following topical application.

The following local adverse reactions have been reported with topical corticosteroids, especially under occlusive dressings: burning, itching, irritation, dryness, folliculitis, hypertrichosis, acneiform eruptions, hypopigmentation, perioral dermatitis, allergic contact dermatitis, maceration of the skin, secondary infection, skin atrophy, striae, miliaria. Discontinue therapy if untoward reactions occur.

DOSE AND ADMINISTRATION

Apply a thin layer of the drug to affected parts 3-4 times daily.

Note:

1 F-E-P Creme is distributed with 3.0% iodochlorhydroxyquin for use when antibacterial/antifungal activity is desired.

2 F-E-P Creme (Plain) is the regular formulation, but without iodochlorhydroxyquin.

Both of these preparations contain pramoxine hydrochloride, which has topical anesthetic properties. Pramoxine is not chemically related to benzocaine or amide type topical anesthetics. Patients can tolerate pramoxine although they may be sensitive to other "caine" type of topical or local anesthetics.

HOW SUPPLIED

F-E-P Creme 1/2 ounce (15 gm) tubes NDC 0524-0026-51
F-E-P Creme Plain 1/2 ounce (15 gm) tubes NDC 0524-0025-51
Federal law prohibits dispensing without a prescription
July 1980

SU-TON®

DESCRIPTION

Forty-five milliliters of SU-TON contain the following ingredients:

| | |
|---|--------|
| Pentylenetetrazol | 30 mg |
| Niacin | 50 mg |
| Vitamin B-1 | 10 mg |
| Vitamin B-2 | 5 mg |
| Vitamin B-6 | 1 mg |
| Vitamin B-12 | 3 mcg |
| Choline | 100 mg |
| Inositol | 50 mg |
| Manganese (as Manganese Sulfate) | 1 mg |
| Magnesium (as Magnesium Sulfate) | 2 mg |
| Zinc (as Zinc Sulfate) | 1 mg |
| Iron (as Ferric Pyrophosphate, Soluble) | 22 mg |
| Alcohol | 18% |

INDICATIONS AND USAGE

SU-TON contains pentylenetetrazol which may be helpful in the older patient as an anxiolytic agent when mental confusion and memory defects are present. SU-TON also contains vitamins, trace minerals, and iron, for those patients who may benefit by preventing the development of a deficiency.

CONTRAINDICATIONS

Epilepsy, convulsive disorders or known history of sensitivity to any of the listed active ingredients.

WARNINGS

The safety of this preparation during pregnancy and lactation has not been established. Use of this drug requires that the physician evaluate the potential benefits of the drug against any possible hazard to the mother and child.

PRECAUTIONS

Although there are no absolute contraindications to pentylenetetrazol, it should be used with caution in epileptic patients or those known to have a low convulsive threshold or a focal brain lesion. Caution should be exercised when treating patients with high doses of SU-TON who have heart disease. While pentylenetetrazol does not act directly on the myocardium, the results from central vagal stimulation could cause bradycardia.

ADVERSE REACTIONS

Pentylenetetrazol in high doses may produce toxic symptoms typical of central nervous system stimulants, which act on the higher motor centers and the spinal cord. Convulsions resulting from this drug are spontaneous and are not induced by external stimuli. They usually last for several minutes and are followed by profound depression and respiratory paralysis. Death has been reported from the ingestion of 10 grams of pentylenetetrazol.

DRUG ABUSE

Drug dependence has not been reported with SU-TON.

OVERDOSE

Signs and symptoms of acute overdose may be due principally from overstimulation of the central nervous system and from excessive vasodilatation with resulting autonomic nervous system imbalance. The symptoms may include the following: vomiting, agitation, tremors, hyperreflexia, sweating, confusion, hallucinations, headache, hyperpyrexia, tachycardia. Treatment consists of appropriate supportive measures. If signs and symptoms are not too severe and the patient is conscious, gastric evacuation may be accomplished by induction of emesis or gastric lavage.

Intensive care must be provided to maintain adequate circulation and respiratory exchange.

DOSE AND ADMINISTRATION

One tablespoonful (15 ml) 3 times a day 30-30 minutes before meals. This drug is not for use in children under 12 years of age.

HOW SUPPLIED

Bottles of 473 ml (16 fl oz) NDC 0524-0015-16
Federal law prohibits dispensing without prescription.
February 1980

TWIN-K®

DESCRIPTION

Each 15 milliliter (one tablespoonful) supplies 20 mEq of potassium ions as a combination of potassium gluconate and potassium citrate in a sorbitol and saccharin solution.

INDICATIONS AND USAGE

For use as oral potassium therapy in the prevention or treatment of hypokalemia which may occur secondary to diuretic or corticosteroid administration. It may be used in the treatment of cardiac arrhythmias due to digitalis intoxication.

CONTRAINDICATIONS

Severe renal impairment with oliguria or azotemia, untreated Addison's disease, adynamia episodica hereditaria, acute dehydration, heat cramps and hyperkalemia from any cause. This product should not be used in patients receiving aldosterone antagonists or triamterene.

WARNINGS

TWIN-K (potassium gluconate and potassium citrate) is a palatable form of oral potassium replacement. It appears that little if any potassium gluconate-citrate penetrates as far as the jejunum or ileum where enteric coated potassium chloride lesions have been noted. Excessive, undiluted doses of TWIN-K may cause a saline laxative effect.

To minimize gastrointestinal irritation, it is recommended that TWIN-K be taken with meals or diluted with water or fruit juice. A tablespoonful (15 ml) in 8 ounces of water is approximately isotonic. More than a single tablespoonful should not be taken without prior dilution.

PRECAUTIONS

Potassium is a major intracellular cation which plays a significant role in body physiology. The serum level of potassium is normally 3.8-5.0 mEq/liter. While the serum or plasma level is a poor indicator of total body stores, a plasma or serum level below 3.5 mEq/liter is considered to be indicative of hypokalemia.

The most common cause of hypokalemia is excessive loss of potassium in the urine. However, hypokalemia can also occur with vomiting, gastric drainage and diarrhea.

Usually a potassium deficiency can be corrected by oral administration of potassium supplements. With normal kidney function, it is difficult to produce potassium intoxication by oral administration. However, potassium supplements must be administered with caution since, usually, the exact amount of the deficiency is not accurately known. Checks on the patient's clinical status and periodic EKG and/or serum potassium levels should be made. High serum potassium levels may cause death by cardiac depression, arrhythmias or arrest.

In patients with hypokalemia who also have alkalosis and a chloride deficiency (hypokalemic hypochloremic alkalosis), there will be a requirement for chloride ions. TWIN-K is not recommended for use in these patients.

ADVERSE REACTIONS

Symptoms of potassium intoxication include paresthesias of the extremities, flaccid paralysis, listlessness, mental confusion, weakness and heaviness of the legs, fall in blood pressure, cardiac arrhythmias and heart block. Hypokalemia may exhibit the following electrocardiographic abnormalities: disappearance of the P wave, widening and slurring of the QRS complex, changes of the ST segment and tall peaked T waves.

TWIN-K taken on an empty stomach in undiluted doses larger than 30 ml can produce gastric irritation with nausea, vomiting, diarrhea, and abdominal discomfort.

OVERDOSE

The administration of oral potassium supplements to persons with normal kidney function rarely causes serious hyperkalemia. However, if the renal excretory function is impaired, potentially fatal hyperkalemia can result. It is important to note that hyperkalemia is usually asymptomatic and may be manifested only by an increased serum potassium concentration with or without EKG changes. Treatment measures include:

1. Elimination of potassium containing drugs or foods.
2. Intravenous administration of 300 to 500 mEq/hr of a 10% dextrose solution containing 10-20 units of crystalline insulin per 1000 milliliters.
3. Correction of acidosis.
4. Use of exchange resins or peritoneal dialysis.

In treating hyperkalemia, it should be noted that patients status on digitalis can develop digitalis toxicity when the serum potassium concentration is changed too rapidly.

DOSE AND ADMINISTRATION

The usual adult dosage is one tablespoonful (15 ml) in 6-8 ounces of water or fruit juice, two to four times a day. This will supply 40 to 80 mEq of potassium ions. The usual preventive dose of potassium is 20 mEq per day while therapeutic doses range from 30 mEq to 100 mEq per day. Because of the potential for gastrointestinal irritation, undiluted large single doses (30 ml or more) of TWIN-K are to be avoided.

Deviations from this schedule may be indicated, since no total daily dose can be defined, but must be governed by observation for clinical effects.

HOW SUPPLIED

Bottles of 1 pint (16 fl oz)

NDC 0524-0015

CAUTION

Federal law prohibits dispensing without prescription.
July 1980

TWIN-K-CI™

DESCRIPTION

Each 15 ml (one tablespoonful) supplies 15 mEq of potassium ions and 4 mEq of chloride ions as a combination of potassium gluconate, potassium citrate, and ammonium chloride, in a sorbitol and saccharin solution.

INDICATIONS

For use as oral potassium therapy in the prevention or treatment of hypokalemia which may occur secondary to diuretic or corticosteroid administration. It may be used in the treatment of cardiac arrhythmias due to digitalis intoxication.

Potassium and chloride are usually the salts of choice in the treatment of hypokalemia since chloride and potassium deficiency are likely to be associated with each other.

CONTRAINDICATIONS

Severe renal impairment with oliguria or azotemia, untreated Addison's disease, adynamia episodica hereditaria, acute dehydration, heat cramps and hyperkalemia from any cause. This product should not be used in patients receiving aldosterone antagonists or triamterene.

WARNINGS

TWIN-K-CI is a palatable form of oral potassium replacement. Excessive, undiluted doses of TWIN-K-CI may cause a saline laxative effect.

To minimize gastrointestinal irritation, it is recommended that TWIN-K-CI be taken with meals or diluted with water or fruit juice. A tablespoonful (15 ml) in 8 ounces of water is approximately isotonic. More than a single tablespoonful should not be taken without prior dilution.

PRECAUTIONS

Potassium is a major intracellular cation which plays a significant role in body physiology. The serum level of potassium is normally 3.8-5.0 mEq/liter. While the serum or plasma level is a poor indicator of total body stores, a plasma or serum level below 3.5 mEq/liter is considered to be indicative of hypokalemia. The most common cause of hypokalemia is excessive loss of potassium in the urine. However, hypokalemia can also occur with vomiting, gastric drainage and diarrhea.

Usually a potassium deficiency can be corrected by oral administration of potassium supplements. With normal kidney function, it is difficult to produce potassium intoxication by oral administration. However, potassium supplements must be administered with caution since, usually, the exact amount of the deficiency is not accurately known. Checks on the patient's clinical status and periodic EKG and/or serum potassium levels should be made. High serum potassium levels may cause death by cardiac depression, arrhythmias or arrest.

In patients with hypokalemia who also have alkalosis and a chloride deficiency (hypokalemic hypochloremic alkalosis), there will be a requirement for chloride ions. TWIN-K-CI is recommended for use in these patients.

ADVERSE REACTIONS

Symptoms of potassium intoxication include paresthesias of the extremities, flaccid paralysis, listlessness, mental confusion, weakness and heaviness of the legs, fall in blood pressure, cardiac arrhythmias and heart block. Hypokalemia may exhibit the following electrocardiographic abnormalities: disappearance of the P wave, widening and slurring of the QRS complex, changes of the ST segment and tall peaked T waves.

TWIN-K-CI taken on an empty stomach in undiluted doses larger than 30 ml can produce gastric irritation with nausea, vomiting, diarrhea, and abdominal discomfort.

OVERDOSE

The administration of oral potassium supplements to persons with normal kidney function rarely causes serious hyperkalemia. However, if the renal excretory function is impaired, potentially fatal hyperkalemia can result. It is important to note that hyperkalemia is usually asymptomatic and may be manifested only by an increased serum potassium concentration with or without EKG changes.

Treatment measures include:

1. Elimination of potassium containing drugs or foods.
2. Intravenous administration of 300 to 500 mEq/hr of a 10% dextrose solution containing 10-20 units of crystalline insulin per 1000 milliliters.
3. Correction of acidosis.
4. Use of exchange resins or peritoneal dialysis.

In treating hyperkalemia, it should be noted that patients status on digitalis can develop digitalis toxicity when the serum potassium concentration is changed too rapidly.

DOSE AND ADMINISTRATION

The usual adult dosage is one tablespoonful (15 ml) in 6-8 fluid ounces of water or fruit juice, two to four times a day. This will supply 30 to 60 mEq of potassium ions and 8 to 16 mEq of chloride ions. The usual preventive dose of potassium is 20 mEq per day while therapeutic doses range from 30 to 100 mEq per day. Because of the potential for gastrointestinal irritation, undiluted large single doses (30 ml or more) of TWIN-K-CI are to be avoided.

Deviations from this schedule may be indicated, since no total daily dose can be defined, but must be governed by observation for clinical effects.

HOW SUPPLIED

Bottles of 1 pint (16 fl oz)

NDC 0524-0015

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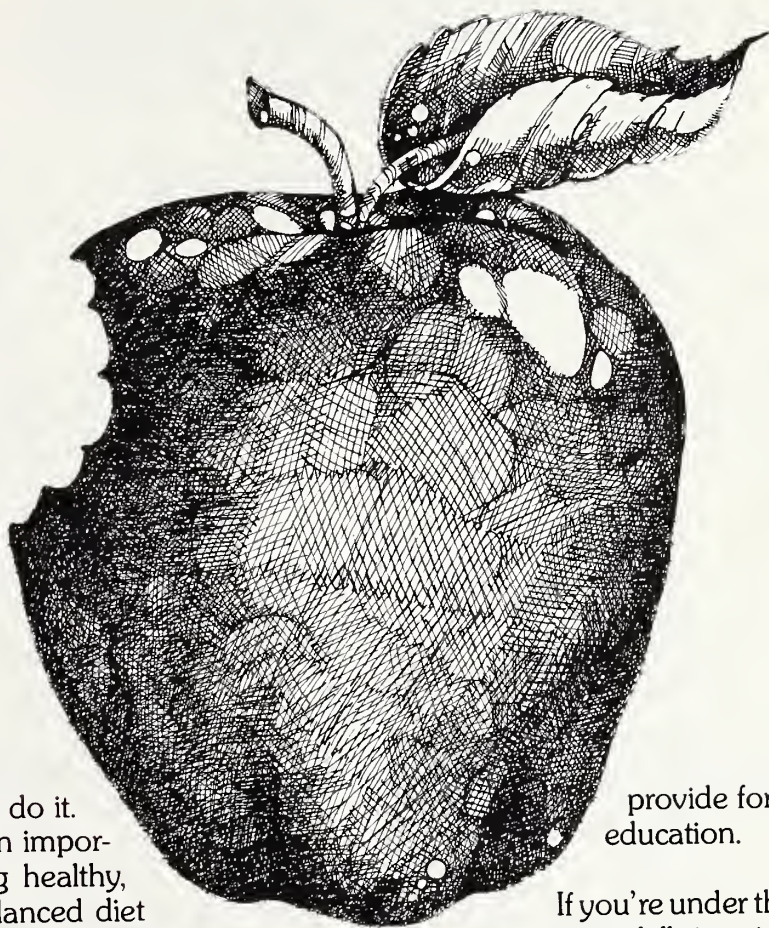
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WARNING: Because of the potential hazard of nephrotoxicity and ototoxicity due to neomycin, care should be exercised when using this product in treating extensive ulcers, trophic ulceration and other extensive conditions where absorption of neomycin is possible. In burns where more than 20 percent of the body surface is affected, especially if the patient has impaired renal function or is receiving other aminoglycoside antibiotics concurrently, not more than one application a day is recommended.

When using neomycin-containing products to control secondary infection in the chronic dermatoses, it should be borne in mind that the skin is more liable to become sensitized to many substances, including neomycin. The manifestation of sensitization to neomycin is usually a low grade reddening with swelling, dry scaling and itching; it may be manifest simply as a failure to heal. During long-term use of neomycin-containing products, periodic examination for such signs is advisable and the patient should be told to discontinue the product if they are observed. These symptoms regress quickly on withdrawing the medication. Neomycin-containing applications should be avoided for that patient thereafter.

PRECAUTIONS: As with other antibacterial preparations, prolonged use may result in overgrowth of non-susceptible organisms, including fungi. Appropriate measures should be taken if this occurs.

ADVERSE REACTIONS: Neomycin is a not uncommon cutaneous sensitizer. Articles in the current literature indicate an increase in the prevalence of persons allergic to neomycin. Ototoxicity and nephrotoxicity have been reported (see Warning section).

Complete literature available on request from Professional Services Dept. PML



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You can minimize phenothiazine drawbacks

When you choose Limbitrol over a phenothiazine-containing product, you minimize the risk of tardive dyskinesia — now associated even with low dose, short-term phenothiazine therapy.^{1,2} You also reduce the possibility of other extrapyramidal side effects, which occur in approximately 30% of patients receiving phenothiazines.³⁻⁵ In contrast, the reported incidence of these disturbing reactions with Limbitrol or either of its compo-

nents alone is rare. (For a complete list of side effects reported with Limbitrol, please consult full disclosure.)

References: 1. Paulson GW. *NY State J Med* 79: 193-195, Feb 1979. 2. Hollister LE. Antipsychotic medications and the treatment of schizophrenia, chap. 9, in *Psychopharmacology: From Theory to Practice*, edited by Barchas et al. New York, Oxford University Press, 1978, pp 134, 145. 3. Domino EF. Antipsychotic phenothiazines, thioxanthenes, butyrophenones and rauwolfia alkaloids, chap. 25, in *Drill's Pharmacology in Medicine*, ed. 4, edited by DiPalma JR. New York, McGraw-Hill Book Company, 1971, p. 476. 4. Savner R. DiMeo. Extrapyramidal syndromes and other neuroleptic side effects of psychotropic drugs, in *Psychopharmacology: A Generation of Progress*, edited by Lipton MA, DiMascio A, Killam KF. New York, Raven Press, 1978, p. 1021. 5. Dantoin PT, Stenson RL. *Dis Nerv Syst* 37: 629-635, N 1976.

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Tablets 10-25 each containing 10 mg chlordiazepoxide and 25 mg amitriptyline
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Efficacy without a phenothiazine

Please see summary of product information on following page.

LIMBITROL® TABLETS Tranquilizer—Antidepressant

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Relief of moderate to severe depression associated with moderate to severe anxiety.
Contraindications: Known hypersensitivity to benzodiazepines or tricyclic antidepressants. Do not use with monoamine oxidase (MAO) inhibitors or within 14 days following discontinuation of MAO inhibitors since hyperpyretic crises, severe convulsions and deaths have occurred with concomitant use. Then initiate cautiously, gradually increasing dosage until optimal response is achieved. Contraindicated during acute recovery phase following myocardial infarction.

Warnings: Use with great care in patients with history of urinary retention or angle-closure glaucoma. Severe constipation may occur in patients taking tricyclic antidepressants and anticholinergic-type drugs. Closely supervise cardiovascular patients (Arrhythmias, sinus tachycardia and prolongation of conduction time reported with use of tricyclic antidepressants, especially high doses. Myocardial infarction and stroke reported with use of this class of drugs.) Caution patients about possible combined effects with alcohol and other CNS depressants and against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving).

Use in Pregnancy: Use of minor tranquilizers during the first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.

Since physical and psychological dependence to chlordiazepoxide have been reported rarely use caution in administering Limbitrol to addiction-prone individuals or those who might increase dosage, withdrawal symptoms following discontinuation of either component alone have been reported (nausea, headache and malaise for amitriptyline, symptoms [including convulsions] similar to those of barbiturate withdrawal for chlordiazepoxide).

Precautions: Use with caution in patients with a history of seizures, in hyperthyroid patients or those on thyroid medication, and in patients with impaired renal or hepatic function. Because of the possibility of suicide in depressed patients, do not permit easy access to large quantities in these patients. Periodic liver function tests and blood counts are recommended during prolonged treatment. Amitriptyline component may block action of guanethidine or similar antihypertensives. Concomitant use with other psychotropic drugs has not been evaluated.

Sedative effects may be additive. Discontinue several days before surgery. Limit concomitant administration of ECT to essential treatment. See Warnings for precautions about pregnancy.

Limbitrol should not be taken during the nursing period. Not recommended in children under 12. In the elderly and debilitated, limit to smallest effective dosage to preclude ataxia, oversedation, confusion or anticholinergic effects.

Adverse Reactions: Most frequently reported are those associated with either component alone: drowsiness, dry mouth, constipation, blurred vision, dizziness and bloating. Less frequently occurring reactions include vivid dreams, impotence, tremor, confusion and nasal congestion. Many depressive symptoms including anorexia, fatigue, weakness, restlessness and lethargy have been reported as side effects of both Limbitrol and amitriptyline. Granulocytopenia, jaundice and hepatic dysfunction have been observed rarely.

The following list includes adverse reactions not reported with Limbitrol but requiring consideration because they have been reported with one or both components or closely related drugs.

Cardiovascular: Hypotension, hypertension, tachycardia, palpitations, myocardial infarction, arrhythmias, heart block, stroke.

Psychiatric: Euphoria, apprehension, poor concentration, delusions, hallucinations, hypomania and increased or decreased libido.

Neurologic: Incoordination, ataxia, numbness, tingling and paresthesias of the extremities, extrapyramidal symptoms, syncope, changes in EEG patterns.

Anticholinergic: Disturbance of accommodation, paralytic ileus, urinary retention, dilatation of urinary tract.

Allergic: Skin rash, urticaria, photosensitization, edema of face and tongue, pruritus.

Hematologic: Bone marrow depression including agranulocytosis, eosinophilia, purpura, thrombocytopenia.

Gastrointestinal: Nausea, epigastric distress, vomiting, anorexia, stomatitis, peculiar taste, diarrhea, black tongue.

Endocrine: Testicular swelling and gynecomastia in the male, breast enlargement, galactorrhea and minor menstrual irregularities in the female and elevation and lowering of blood sugar levels.

Other: Headache, weight gain or loss, increased perspiration, urinary frequency, mydriasis, jaundice, alopecia, parotid swelling.

Overdosage: Immediately hospitalize patient suspected of having taken an overdose. Treatment is symptomatic and supportive. I.V. administration of 1 to 3 mg physostigmine salicylate has been reported to reverse the symptoms of amitriptyline poisoning. See complete product information for manifestation and treatment.

Dosage: Individualize according to symptom severity and patient response. Reduce to smallest effective dosage when satisfactory response is obtained. Larger portion of daily dose may be taken at bedtime. Single h.s. dose may suffice for some patients. Lower dosages are recommended for the elderly.

Limbitrol 10-25, initial dosage of three to four tablets daily in divided doses, increased up to six tablets or decreased to two tablets daily as required. Limbitrol 5-12.5, initial dosage of three to four tablets daily in divided doses, for patients who do not tolerate higher dosages.

How Supplied: White, film-coated tablets, each containing 10 mg chlordiazepoxide and 25 mg amitriptyline (as the hydrochloride salt) and blue, film-coated tablets, each containing 5 mg chlordiazepoxide and 12.5 mg amitriptyline (as the hydrochloride salt) — baffles of 100 and 500, Tel-E-Dose® packages of 100, available in trays of 4 reverse-numbered boxes of 25, and in boxes containing 10 strips of 10. Prescription Paks of 50.

How to initiate and maintain therapy

Select dosage strength appropriate for each patient

- Limbitrol 5-12.5 is recommended to minimize drowsiness and for elderly patients.
- Limbitrol 10-25 may be indicated for patients who tolerate medication without undue side effects.

Specify daily dosage based on symptom severity

- An initial dosage of three tablets is recommended.
- Dosage may be increased to six tablets or decreased to two tablets daily as necessary.
- Once a satisfactory response is obtained, patients should be continued on the smallest dose required to maintain the desired effect.

Utilize dosage options to best accommodate individual patient needs

- T.I.D. or Q.I.D., familiar regimens most suited for patients who tolerate medication without undue drowsiness.
- Two tablets one hour before bedtime and one tablet midday may minimize daytime drowsiness and help relieve a common target symptom — insomnia.
- Entire dosage h.s. to take maximum advantage of the sedative effect.

Your guide to patient management... when you decide medication is needed

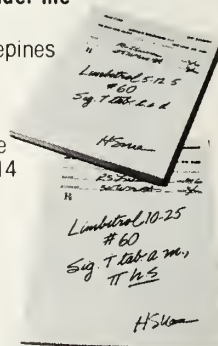
How to make each patient an informed patient

1. Discuss with patients the probability that they will experience drowsiness, especially during the first week.
2. Reassure your patients that drowsiness is one indication that the medication is working and that it may help alleviate their insomnia.
3. Encourage patients to report if drowsiness becomes troublesome so that, if necessary, dosage schedule can be adjusted.
4. Caution patients about the combined effects with alcohol or other CNS depressants. Let them know that the additive effects may produce a harmful level of sedation and CNS depression.
5. Caution patients about activities requiring complete mental alertness, such as operating machinery or driving a car.
6. Warn pregnant patients and patients of childbearing age that the safety of Limbitrol in pregnancy has not yet been established.

Please see complete product disclosure for other pertinent information.

Limbitrol should not be used under the following circumstances:

1. Hypersensitivity to benzodiazepines or tricyclic antidepressants.
2. Concomitantly with an MAO inhibitor. To replace an MAO inhibitor with Limbitrol, discontinue MAO inhibitor for a minimum of 14 days before cautiously initiating Limbitrol therapy.
3. During the acute recovery phase following myocardial infarction.



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Spontaneous Brainstem Hematoma—Analysis of Cases Verified by Computed Tomography

Alfred A. DeMaria, Jr., M.D., and Thomas W. Farmer, M.D.

ABSTRACT Three patients with spontaneous brainstem hematoma (SBH) verified by computed tomography (CT) seen at North Carolina Memorial Hospital from 1977-1979 are presented. One died 88 hours after admission, but the other two made significant recoveries. The mortality rate in these three patients and eight other previously reported patients with SBH diagnosed by CT was 45%. This contrasts with the 75% to 90% mortality rate reported before the availability of CT. A fatal outcome was related to the early onset of coma. Other factors which may predict a poor outcome include a diastolic blood pressure over 100 mm Hg, a large medial hematoma, temperature above 38.3°C, hydrocephalus and EEG slowing. Patients with SBH should be treated aggressively to increase the number with meaningful survival.

BLEEDING into the brainstem may be due to trauma, metabolic disorders, blood dyscrasias, tumors, vascular anomalies, supratentorial lesions or hypertension.¹⁻⁴ The term "hematoma" refers to a circumscribed mass of blood which is detectable by CT, while the term "hemorrhage" indicates diffuse, infiltrating blood not detectable by CT.^{1,5} Spontaneous bleeding means that no readily apparent underlying cause is present except hypertension, although invasive studies or postmortem examination are not performed to exclude small vascular malformations

or tumors that might be missed by CT.

Only eight cases of CT-verified spontaneous brainstem hematoma (SBH) have been previously reported. Three additional patients are presented here. Factors influencing prognosis are analyzed.

CASE REPORTS

Case 1

A 48-year-old woman complained of right leg numbness and nausea, went to the bathroom and was subsequently found on the floor, unresponsive; her past history was unremarkable. On arrival in the emergency room, she was intubated; blood pressure was 300/180, pulse 100, respirations 16 and agonal, rectal temperature 38.4°C. The patient was unresponsive and displayed decerebrate posturing. A soft systolic murmur was heard at the left sternal border. The pupils were 3 mm and reactive to light; the left eye deviated medially and inferiorly. The right fundus revealed no abnormality; the left could not be adequately visualized. Corneal reflexes and caloric responses were absent bilaterally. There was a semi-purposeful response to pinprick on the lower extremities. Both plantar responses were extensor. Deep tendon reflexes were increased in the right lower extremity. There was slight left ventricular prominence on chest x-ray and left ventricular hypertrophy on EKG. Over the next two hours she received intravenous furosemide 40 mg, diazoxide 300 mg, decadron 10 mg, hydralazine 10 mg and mannitol 25 g; blood pressure was then 230/

120. CT revealed increased density in the region of the brainstem (Figure 1A) and slight dilatation of the lateral ventricles (Figure 1B). Steroids were continued and nitroprusside and methyldopa were used to bring the blood pressure to 160/100. Temperature subsequently rose to 39.1°C rectally; appropriate cultures were negative. Thirty-six hours after admission, she displayed spontaneous movement and responded to painful stimuli. An EEG showed diffuse theta and delta slowing. She expired of a respiratory arrest 88 hours after admission. Permission for autopsy was denied.

Case 2 [reported previously⁶]

A 38-year-old woman with known hypertension of eight years' duration forgot to take her medications

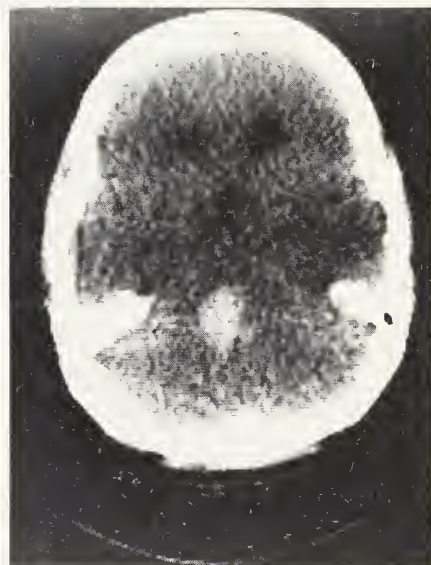


Figure 1A: Unenhanced CT of Case 1 showing blood density in the region of the pons; other views, not shown, showed no extension of blood into the fourth ventricle.

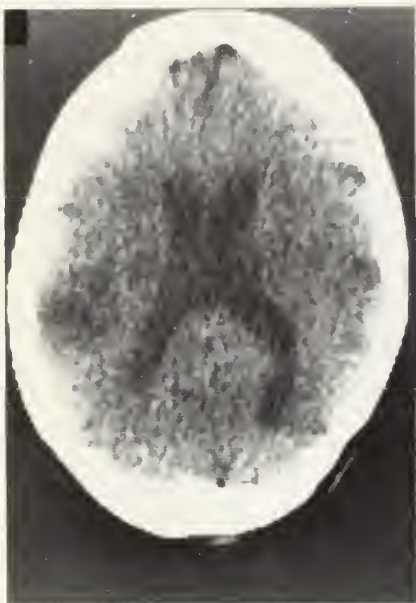


Figure 1B: Unenhanced CT of Case 1 demonstrating mildly enlarged lateral ventricles; there is no evidence of blood in the occipital horns.

for several days and was awakened one morning by a severe headache; she felt something "pop" inside her head and became vertiginous and nauseated, complaining of tinnitus in the left ear and numbness of the left extremities. She was taken to her local emergency room where she was told her blood pressure was elevated, given an unknown medication and sent home. She subsequently noticed the numbness was getting worse and spreading up her trunk. She returned to the local emergency room and was sent to N.C. Memorial Hospital. Past history was otherwise unremarkable, as was the family history except for hypertension in the patient's mother. She smoked a pack of cigarettes per day and drank an average of six beers per day. On arrival in the emergency room, blood pressure was 180/120 (hydralazine 10 mg intramuscularly dropped the pressure to 160/90), pulse was 80, respirations 16 and temperature 36.6°C. She was oriented to person, place and time but was somnolent. General examination was unremarkable except for obesity. Hypesthesia was present on the left side of the body. The eyes were tonically deviated to the left, with bobbing on attempted upward gaze. Pupils

were 1-2 mm, equal and reactive to light. Fundi were unremarkable bilaterally. A Horner's Syndrome was present on the left. The right facial muscles and lateral rectus were paretic. There was slight weakness in all muscle groups of the left leg, but otherwise motor and cerebellar systems were intact. CT demonstrated increased density in the right side of the brainstem (Figure 2). Lumbar puncture was unremarkable except for 16 red cells and a protein of 63 mg%. Other laboratory results were unremarkable except for the presence of a urinary tract infection and hypokalemia, as

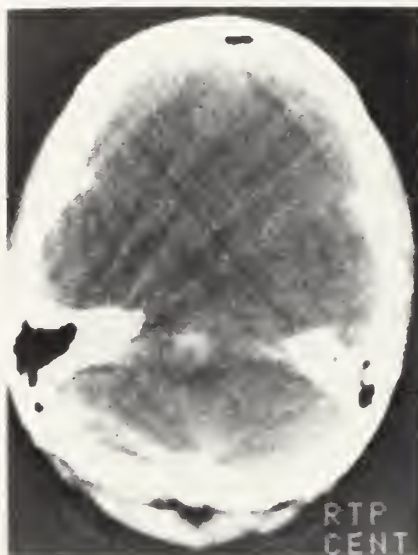


Figure 2: Unenhanced CT of Case 2 showing blood density in the region of the right dorsolateral pons.

well as an enlarged heart on chest x-ray. EKG was normal. Blood pressure was controlled on a diuretic and methyldopa, the patient improved and was discharged after six weeks. Fifteen months after discharge she was ambulatory at home, caring for herself.

Case 3

This 46-year-old woman had a long history of hypertension and poor compliance with medications, as well as ethanol abuse. She reportedly had been drinking heavily and complaining of occipital headaches prior to being found unable to move except her right arm, but able to converse. She was taken to her

local hospital and admitted. At that time, blood pressure was 270/160 and she received two doses of diazoxide 300 mg intravenously. She was obtunded but responded to verbal stimuli. Pupils were small but reactive to light. The left plantar response was extensor. Glucose ranged as high as 691 mg% (after decadron administration), BUN was 38.6 mg%, creatinine 3.5 mg%, uric acid 11.1 mg% and liver function tests were elevated. Temperature was 38°C and she received ampicillin and decadron. She also received digoxin for episodes of atrial tachycardia. After two days she had stabilized somewhat and was transferred to N.C. Memorial Hospital. She was also noted to have a history of a "warm" thyroid nodule and congestive heart failure. On arrival here, blood pressure was 180/110, pulse was 120, respirations were 24 and temperature was 37.5°C rectally. She followed simple commands. There were bilateral lateral rectus pareses and intermittent skew deviation of the eyes. Pupils were 3 mm and reactive to light. Fundi displayed hypertensive vascular changes. A left facial paresis was present. Spasticity was evident in the legs and less so in the arms. Response to pinprick was intact. Deep tendon reflexes were in-

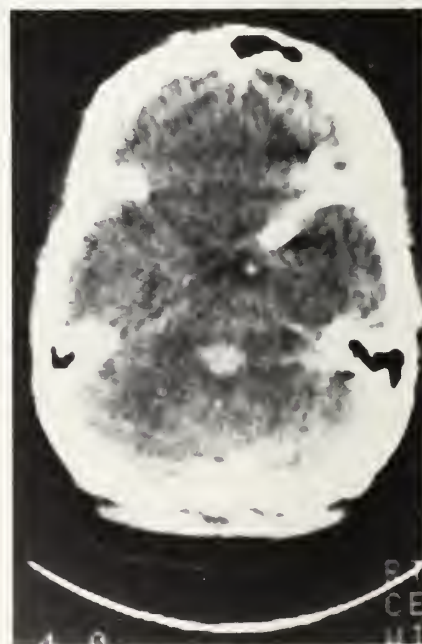


Figure 3A: Unenhanced CT of Case 3 showing blood density in the region of the pons.

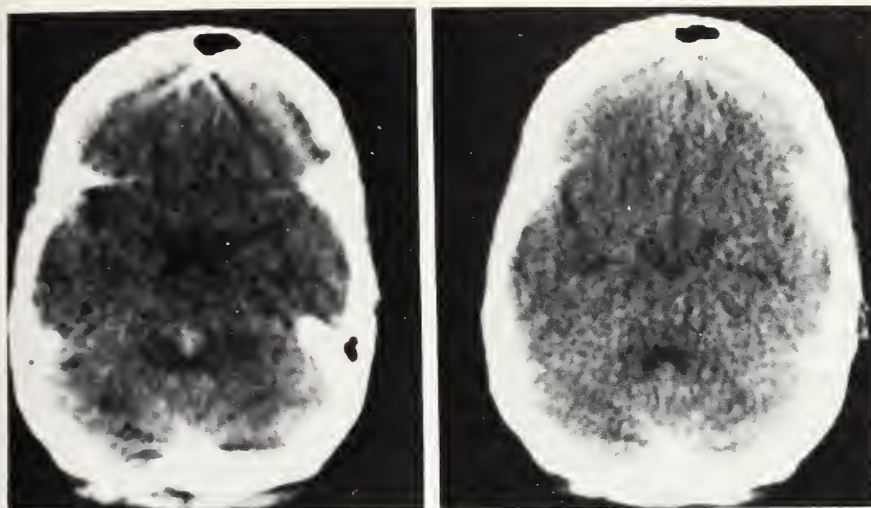


Figure 3B: Unenhanced CT of Case 3 showing no extension of blood into the fourth ventricle.

creased in the right arm and both knees; both plantar responses were extensor. Chest x-ray disclosed cardiac enlargement and EKG demonstrated left ventricular hypertrophy. A routine CT was nor-

mal, but the following day CT was repeated with 4-mm posterior fossa slices, and this disclosed an increased density in the brainstem (Figures 3A and 3B). Blood pressure was controlled and the pa-

tient's condition improved, although she was still dysarthric with a left facial paresis and spasticity and weakness in the legs and arms on discharge six weeks later. Six months after discharge, she was in a nursing home, unable to ambulate without assistance and requiring help with self-care, but able to converse.

REVIEW OF REPORTED CASES

Analysis of these three cases and eight others (Table 1) yields several important points. Most importantly, SBH is not incompatible with meaningful survival. Five of the eleven patients expired, but the others made substantial recoveries; with more aggressive therapy, mortality might have been even lower. Of course, a bias due to a tendency to report patients with good outcomes cannot be excluded.

Early onset of coma, i.e., within minutes of the ictus, invariably led

TABLE 1
CASES OF CT-VERIFIED SBH

| Author(s)/Year Reference) | Age/Sex | Level of Conscious- ness on Admission | BP | Temp °C | Therapy | Size/Location of Lesion | Condition 24h After Admission | Associated Conditions | Outcome | Other Observations |
|-------------------------------|---------|--|------------|------------|--|---|--------------------------------------|--|------------------------|---|
| ler, et al. 13 5, 5. | 59F | superficial coma | 250 160 | NR | "treated conservatively" | 3x2 cm/Pons left of mid- line: V;H | NR | NR | died after 2 days | LP-bloody CSF |
| 6. | 58M | awake and cooperative | | NR | "conservative treatment" | NR/right side pons; H | became coma- tose over 8 hours | on anticoagu- lants for prior TIA | recovered | EEG-alpha coma; LP: bloody CSF |
| 7. | 39M | comatose | 160 100 | NR | antihypertensive and antiedema agents; ventricular drain | "large"/pons more on right side, H | no change | hypertension | died after 12 days | shunt did not prevent fatal outcome |
| ssman, et al., 8, 5 | 47M | deeply comatose | 250 115 | 39.6 | intubation, antihyper- tensive and antiedema agents | large/pons bilateral | NR | hypertension | died after 70 hours | ocular bobbing LP-clear CSF with increased pressure, pro |
| udera et al., 18, 8 | 45M | comatose | | NR | NR | NR | NR | NR | died | NR |
| cker and verberg, 14, 8 | 55F | gradually increasing obundation | 130 75 | NR | surgery | large/pons midline; V | deteriorated until surgery | previous myo- cardial infarc- tion | recovered | NR |
| mphreys, 15, 8 | 10M | confusion | NR | fever | surgery | large/mesen- cephalon left of midline | deteriorated until surgery | NR | recovered | NR |
| yne, 12, 8 | 67F | lethargic | 180 100 | NR | diuretics | large/midpons | improved (after 2d) | diabetes mel- litus, hyper- tension | recovered | ocular bobbing bilateral 6th nerve paresis |
| esent Report, 1. | 48F | deeply comatose | 300 180 | 38.4 | antihypertensive and antiedema agents | large/pons midline H | perhaps slight improvement | none known; | died after 88 hours | EEG-diffusely slow |
| 2. | 38F | lethargic | 180 120 | 36.6 | antihypertensive agents | small/right dorsolateral pons | improved | urinary tract infection; hyper- tension; cardiac arrhythmias | recovered | LP-16RBC's protein 63 |
| 3. | 46F | lethargic | 270 160 | 38 | antihypertensive and antiedema agents | small/midline pons | improved | hypertension; congestive heart failure; dehydra- tion; cardiac ar- rhythmias; ethanol abuse | recovered | none |

= none reported, not reported, or uncertain
= extension of blood into the ventricles
= hydrocephalus

to death (5/5 patients) whereas the patient who was not initially comatose had a more favorable outcome (6/6), even if the patient's condition deteriorated later. Size and location of the blood mass as demonstrated by CT also correlated with prognosis; four of seven patients with relatively large, medial hematomas died, whereas three of three with small, lateral lesions survived. All but one of the hematomas were in the pons; the one with a mesencephalic lesion recovered. No CT-verified medullary hematomas were found. The only patient with diastolic blood pressure less than 100 recovered, one of two with diastolic pressure of 100 recovered and only two of five with diastolic pressure over 100 survived. Two patients had temperatures over 38.3°C and both died; two with temperatures less than 38.3°C survived. Of four patients with reported hydrocephalus, only one survived, and shunt placement in one case did not prevent death. Two patients had blood in the ventricles demonstrated by CT; one recovered. Two patients had definitely bloody CSF on LP and one recovered. Two patients had EEGs. One with alpha rhythm recovered; the other with diffuse slowing died.

COMMENT

SBH previously has been reported to have a mortality rate over 75% within the first three days, with many survivors left in a vegetative state.^{4,7-11} This bleak outlook may be due to derivation of data primarily from autopsy studies, lack of enthusiasm for treatment. Recent reports of good survival in patients with CT-verified SBH suggest the

prognosis is not always so grave^{12,13} and reports of successful surgical intervention^{14,15} and improved medical treatment and supportive care portend a better outlook.

Although some authors maintain that the diagnosis of brainstem hematoma (and hemorrhage) can be made on clinical grounds alone,⁵ most disagree. The diagnosis has been made by ventriculography/pneumoencephalography¹⁶ and angiography.⁷ CT allows safe and accurate documentation of SBH and differentiation from other entities, particularly brainstem infarction and cerebellar hemorrhage. CT may even reveal brainstem hematoma in patients without neurologic signs referable to the brainstem.¹⁷ CT has limitations, however; due to slice thickness, averaging, movement and other artifacts, brainstem hematoma may be missed, as in our Case 3, or the exact size and location may be impossible to determine.¹³

Surgical intervention may be appropriate in selected patients although indications are currently uncertain. Perhaps surgery should be considered in patients with early onset of coma (since there seems to be little to lose) and patients who are rapidly deteriorating despite aggressive medical therapy.

Numbers in this analysis are small (sufficient details on the six patients reported by Dopesh, et al,¹⁷ were not available for inclusion in this report), but our results suggest a prospective study of a large number of patients with CT-verified SBH would provide information crucial to management.

Addendum: Since preparation of this manuscript, three additional patients with CT-verified SBH have

been reported (Brismar J, Bengt H, Olle N: Benign brainstem hematoma. *Acta Neurol Scand* 60: 178-182, 1979; and Burns J, Lisak R, Schut L, et al: Recovery following brainstem hemorrhage. *Ann Neurol* 7:183-184, 1980). These additional patients further support the conclusions in our paper.

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Alcohol Abuse: Diagnosis and Treatment

John Ingram Walker, M.D.

ABSTRACT Alcoholism is one of the most prevalent conditions to confront the family physician. Nevertheless, because alcoholics have an uncanny ability to cover up their problem, approximately half of cases seen by physicians go undiagnosed. Physical clues of alcohol abuse include unexplained gastrointestinal complaints, injuries, seizures, neuropathies and infections. Treatment begins with a simple, direct and unambiguous confrontation. Alcoholics Anonymous and disulfiram therapy can help the alcoholic achieve total abstinence.

ONE in every 20 patients who visits a family physician suffers from physical or emotional problems associated with alcohol abuse.¹ Almost 20% of all hospital care expenses results from alcohol abuse; untreated alcoholism decreases life expectancy by 10 to 12 years and leads to increased incidence of cirrhosis, cardiovascular disease, pancreatitis, infection, myopathy, neurologic disorders and hematological abnormalities.² This article discusses the etiology, diagnosis and treatment of alcoholism.

ALCOHOLISM

Etiology

As Vaillant³ stated, the development of alcoholism is "as multi-determined and as unpredictable as whether an individual will develop tuberculosis, become a violin player, or move to a large city." He

lists eight factors that have been thought to influence alcohol abuse:

1. **Availability.** When alcohol is cheap and readily available consumption goes up.
2. **Onset of Action.** Rapidly absorbed, high proof drinks such as vodka and whiskey lead to drug dependence quicker than less potent beers and wines.
3. **Physical Dependence.** The discomfort of withdrawal symptoms reinforces continued drinking.
4. **Genetic Background.** The risk of alcoholism in the general population of 3% to 5% for males and 0.1% to 1% for females and the high rate of alcoholism of male adoptees in adoption studies leads to the suspicion of X-linked recessive transmission for alcoholism.
5. **Culture.** Higher rates of alcoholism are found in countries that accept drunkenness (Irish and Anglo-Saxon) than those that prohibit drunkenness (Italians and Jews).
6. **Childhood Environment.** Retrospective studies implicate childhood unhappiness as a cause of alcoholism but studies that follow adolescents into middle life fail to confirm these findings. Childhood environment, then, plays less of a role in the etiology of alcoholism than previously thought.
7. **Personality.** While in past studies alcoholics were thought premorbidly to demonstrate passive and dependent traits, more recent prospective research indicates that pre-alcoholic individuals appear more independent and aggressive than individuals who fail to become alcoholics.

8. **Symptom Relief.** While alcoholics claim that drinking reduces tension, depression and loneliness, videotapes made before, during and after alcoholic drinking indicate that chronic alcohol use causes more withdrawal, depressed and anxious behavior than sobriety.

Diagnosis

The *Diagnostic and Statistical Manual of Mental Disorders* outlines the criteria for alcohol abuse:

1. Continuous or episodic use of alcohol for at least one month
2. Social complications of alcohol abuse are reflected in at least one of the following:
 - a. Difficulties with family or friends over alcohol abuse
 - b. Legal difficulties because of alcohol
 - c. Poor work performance because of alcohol
 - d. Violence demonstrated while intoxicated
 - e. Legal difficulties because of alcohol
3. Either of the following:
 - a. Compelling desire to use alcohol
 - b. Pathological pattern of use demonstrated by drinking binges lasting two or more days, black-out spells while intoxicated, ingestion of a fifth of alcohol or its equivalent in one 24 hour period, or drinking non-beverage alcohol (shaving lotion, hair oil, etc.).

The diagnostic criteria for alcohol dependence include all of the above plus:

1. Diminished effect of alcohol with regular use of the same dose *or*
2. Development of alcohol with-

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The views expressed in this article are those of the author and not necessarily those of the U.S. Veterans Administration

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drawal characterized by tremor and malaise relieved by drinking

According to Vaillant³ more than half of the alcoholics seen by physicians go undiagnosed. He cites several reasons for this failure in diagnosis, among them being the alcoholic's convincing denial of abuse. Alcoholics have an uncanny ability to cover up their problem. Physical clues of alcohol abuse include¹:

1. Early morning vomiting or vague abdominal pain and diarrhea
2. Bruises, sprains and injuries of questionable origin
3. "Blackouts," peripheral neuropathy, or sudden onset of seizures
4. Chronic cough, infections, palpitations, or frequent illnesses (usually occurring on Monday)
5. Seborrhea and rosacea
6. Generalized depression and anxiety

Treatment

Treatment of the alcoholic begins with a simple, direct and unambiguous confrontation.⁵ Ofttimes, because of the alcoholic's denial and his inability to conceive of life without alcohol, many confrontations by both the physician and the family will be necessary before the patient can begin to associate his drinking as the cause, rather than the result, of many major problems in his life. The physician must have the courage of his convictions and deal with the patient's denial head-on while, at the same time, expressing warmth and concern for the patient and the belief that the patient can be helped. Since most alcoholics postpone a decision to abstain until a major crisis forces the issue, the physician must chip away at the patient's denial so that when the crisis occurs the patient will be better prepared to seek treatment.

Alcohol Withdrawal. After the patient admits to a drinking problem, the first step involves withdrawal of alcohol. Physiological withdrawal, usually beginning 6 to 24 hours following the cessation of heavy drinking, can be identified by

sweating, tachycardia, agitation, confusion and hyperventilation. In severe cases hallucinations and delusions occur. Grand mal seizures represent the most violent demonstration of alcohol withdrawal.

Those patients exhibiting 1) disorientation, 2) seizures, 3) marked psychomotor agitation, 4) severe hypertension, or 5) hallucinations should be hospitalized for detoxification.⁶ Patients with moderate withdrawal symptoms can be managed on an outpatient basis provided they receive immediate medication. The administration of diazepam (10 to 20 mg every four to six hours) or chloridiazepoxide (50 to 100 mg every four to six hours) provides a safe and effective treatment for alcohol withdrawal. Physiologic signs, rather than complaints of the patient, should be used as a guide for additional medication.

Less cardiotoxic than the other antipsychotics, haloperidol 1-5 mg intramuscularly every 1 to 4 hours as needed can be used to control hallucinations, delusions and extreme agitation. In those patients with hypomagnesemia characterized by a marked tremor, lowered seizure threshold, and serum magnesium levels less than 2.0 mEq/liter, magnesium sulfate can be given in doses of 2 to 4 ml of 50% magnesium sulfate in every 8 hours for at least three doses.⁷ Ineffective for routine use, phenytoin can be given prophylactically in a patient with a seizure history. To prevent seizures requires a loading dose of a gram of phenytoin in 500 cc of five percent dextrose and water given intravenously over a one-to-four-hour period; this loading dose is followed by 400 mg of phenytoin daily. Korsakoff's psychosis can be aborted with the administration of 100-200 mg of thiamine (Vitamin B₁) IM or IV and continued orally for at least three days; in addition, all patients should receive 1-5 mg of folic acid along with a multi-vitamin supplement.⁸

Chronic Care. Once the alcohol withdrawal syndrome has been treated the patient needs to travel the hard and narrow path of total

abstinence. Abstinence can best be achieved in one of two ways — Alcoholics Anonymous (AA) or disulfiram (Antabuse) therapy, or, most effectively, the combination of both.

In recommending AA, the physician should keep in mind that most patients refuse to attend a meeting unless accompanied by someone. The physician can ask for the patient's permission to call on an AA member to take the patient to the first meeting. The physician might say:

"You have a special disease that is going to need long term expert care. Alcoholics Anonymous has by far the best record in treating alcoholics. Can I call an outstanding citizen in our community who is also an AA member and who I know has helped many people like you and ask him to visit you tonight?"

To be persuasive, the physician should be familiar with a few facts concerning AA. Founded in 1935 by two alcoholics, Bill W. and Dr. Bob, both of whom became abstinent through a "fundamental spiritual change," the organization has grown to over 10,000 groups with more than a million members.⁹ AA emphasizes both group and individual treatment approaches. Meetings are devoted to testimonials and discussions of the problems of drink. Through mutual help and reassurance, the alcoholic gains a new sense of confidence and more successful coping abilities.

Of those attending one AA meeting just less than half continue to attend meetings for three months, but the alcoholic that has regular attendance for 90 days has a 50% chance of remaining sober for at least one year. An extensive survey conducted by the General Service Office of Alcoholics Anonymous¹⁰ found that approximately 40% of those in attendance at a typical AA meeting have been sober for less than a year, another 40% have been sober for one to five years, and the remaining 20% have been sober for more than five years.

For patients who drink impulsively, disulfiram (Antabuse) may be a useful adjunct to AA. Disulfiram blocks an intermediary step in

alcohol metabolism leading to the accumulation of acetaldehyde in the body so that extreme discomfort, nausea, vomiting, headache and dizziness occurs in an individual who drinks only a small amount of alcohol within a two week period taking disulfiram. The initial dose of disulfiram is 500 mg a day for one week followed by 250 mg daily thereafter. Contraindications include:

- Myocardial disease
- Recent coronary occlusion
- Psychoses
- Hypersensitivity to the drug
- Ingestion of metronidazole (Flagyl), paraldehyde, or alcohol within the past 24 hours
- Because alcoholics have been known to change their minds be-

tween leaving the physician's office and arriving at the pharmacy with the prescription for disulfiram, it is best that the physician give the patient the first dose of the medication while that patient is still in the office. Having the patient sign a contract of agreement to remain on the medication helps motivate the patient to continue with therapy. Encouraging the patient to take the daily dose of medication when the spouse is present is an additional incentive for maintaining abstinence.

AA and Antabuse are effective therapeutic modalities. Alcoholism, however, is a chronic relapsing condition and even with the best of conditions the patient may begin drinking again. If a relapse occurs

the physician should take an optimistic view expressing the belief that the patient can achieve a longer period of abstinence the next time.

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Hemophilia

About seventy or eighty years ago, a woman by the name of Smith, settled in the vicinity of Plymouth, New Hampshire, and transmitted the following idiosyncrasy to her descendants. It is one, she observed, to which her family is unfortunately subject, and has been the source not only of great solicitude, but frequently the cause of death. If the least scratch is made on the skin of some of them, as mortal a hemorrhage will eventually ensue as if the largest wound is inflicted. The divided parts, in some instances, have had the appearance of uniting, and have shown a kind disposition to heal; and, in others, cicatrization has almost been perfect, when, generally about a week from the injury, an hemorrhage takes place from the whole surface of the wound, and continues several days, and is then succeeded by effusions of serous fluid; the strength and spirits of the person become rapidly prostrate; the countenance assumes a pale and ghastly appearance; the pulse loses its force, and is increased in frequency; and death, from mere debility, then soon closes the scene. Dr. Rogers attended a lad, who had a slight cut on his foot, whose pulse "was full and frequent" in the commencement of the complaint, and whose blood "seemed to be in a high state of effervescence." So assured are the members of this family of the terrible consequences of the least wound, that they will not suffer themselves to be bled on any consideration, having lost a relation by not being able to stop the discharge occasioned by this operation. — John C. Otto, 1803.

SPECIAL ARTICLE

The Physician and Spouse, Physician, Know Thyself—And Thy Mate

First of Three Parts

W. P. Wilson, M.D.,* and D. B. Larson, M.D.**

ABSTRACT Physicians are acknowledged leaders in their society. As such they are expected to resist the decline in moral values that is occurring. To do this they need to look at their lives objectively in order that they may apply correctives. Physicians are uniquely privileged to see all dimensions of life in its full trajectory from conception to death. They can then empirically document the value of maintaining a stable, fulfilling marriage and the rearing of children of worth. Physicians live in a world of stress where demands made by their patients distract them from their duties as husbands and fathers. Society expects them to lead in civic and social causes. All these combine to create a less than ideal lifestyle if their coping mechanisms are inadequate.

THROUGHOUT recorded history the shaman, the medicine man, and the physician have occupied special places in their respective societies. Because they combat the evil forces of disease and death, they are afforded unusual rights and privileges and are

held in high esteem. Because their relationship with their patients is unusually close, they are expected to be virtuous and to set examples of moral behavior that will be standards for those who come to them for help. If they fail to live up to the expectations of their society, they are condemned and stripped of their prerogatives. The principle of *no-blesse oblige* has been applied to leaders of every society.¹ In our society this principle is summed up in the Biblical statement that a leader (in the church) should have a successful marriage and a well-behaved family, should be sober, self-controlled and orderly, and should have the respect of people outside the church.² Throughout the Christian world physicians, lawyers and government leaders — as well as ministers, elders and deacons — have been expected to live up to this description.³

Recent changes in the mores of our society have given rise to an increasing divorce rate. Physicians have proved to be as vulnerable to marital dissolution as have other professionals — and more vulnerable than some. But this is not the way it could be. As leaders and standard-setters in our society, physicians need to resist this decline in moral values. They know that an important measure of a person's personal success is the suc-

cess of his marriage and the happiness and well-being of his family. The physician, more than most other professionals, should be acutely aware of the problems growing out of divorce, since he often has to deal with the physical problems created by the emotional trauma resulting from the break-up of a marriage and a family.

Since divorce has reached epidemic proportions, it would seem that our profession, which prides itself on its problem-solving ability, would desire to determine the etiology of the problem and find some means of prevention. Even if this problem has not affected our own marriages or our children's lives, we can see its damaging effects in our practices and on the very fabric of our society. Centuries ago, Plato laid down the dictum that no society can survive if its children are raised in unstable homes.⁴ The truth of this saying is being demonstrated today. Children raised in broken homes have an increased risk for psychiatric disease, alcoholism, drug addiction, delinquency and unstable marriages in their adult years.^{5,6}

If it is true that physicians should come to grips with this problem, we should begin by looking at ourselves and our spouses and marriages, our family lives, and the special problems physicians encounter in their marriages. Along the way, we will

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try to determine what is needed to establish a good marriage and to raise children successfully. With a bit of work, we may be able to enrich our own marriages and increase our ability to recognize and correct marriage-threatening problems wherever we encounter them.

In this presentation we will begin with self-inspection.

THE PHYSICIAN

Attributes

The physician is a person who has made it through one of the most highly selective processes in our society. Most often, he has come from a stable home where he was loved and accepted. He has been stimulated and encouraged in his search for knowledge. He has achieved at a high academic level. Only one percent of the population will be as well educated as he is.⁷ The number of years physicians spend obtaining their education will never be less than 19 and will usually be at least 21; if they become specialists their education may take 23 years, and, if they decide to be super-specialists, as long as 25 to 27 years. By the time they graduate from medical school, their part of education and support will have cost someone nearly \$40,000.⁸ No other degree is so expensive in terms of time and money as the M.D.

The student who gains admission to medical school is selected from a highly competitive group of candidates who have demonstrated by their superior academic performance, leadership ability, and self-discipline that they possess an unusually broad spectrum of personality attributes that should allow them to cope successfully with a stressful life. He will need these attributes — especially the self-discipline. The medical student spends more hours in class and invests more time in practical laboratory work than other doctoral candidates — and he will spend as much time at his books as they do.

Before he opens his own office, a physician will take at least two and sometimes as many as five comprehensive examinations to demonstrate the adequacy of his

knowledge, and then he will anticipate continuing his education by attending scientific meetings and instructional courses aimed at keeping him abreast of developments in his field. When he completes his education, he will be expected to use his talents for the physical, psychological, social and economic betterment of mankind.

It is no wonder that the physician sometimes sees himself as adequate. His awareness of his abilities is quite understandable, for his fitness has been proved by his surviving to complete their training.

Whether he consciously evaluates himself or not, the physician's approach is based on the knowledge that he is a self-sufficient person. He can do most of the things that a person must do to cope with life, and he can do them well. Because he learns quickly, he undertakes new ventures without hesitation. Because he is efficient, his productivity is high. Because he is aggressive, he likes problems to solve. Most of all, the physician is competitive. It is his skill pitted against disease; it is his knowledge pitted against ignorance and superstition that makes a difference in the lives of his patients. Because he is competitive, he strives to be better than his colleagues. He has competed with them throughout his training and he does not stop competing after he gets into practice.

Once he enters practice, the physician's evaluation of himself will be strongly influenced by the respect — even adulation — of the patients he treats. In their eyes, their physician is a very special person, and they love him even when his defects are apparent. After all, he is *their* doctor.

The Professional Life

What about the physician's professional life? How does it compare with that of other professionals: lawyers, writers, actors, artists? Only the minister has a professional life that makes demands comparable to those made on the physician. The physician has been trained to respond to the patient's call for help no matter what time of day or night it comes. Sickness knows no work-

ing hours, holidays or vacations. In no other profession is there such constant pressure to respond.

Also unique is the closeness of the physician's relationship with his patients. Anyone who puts his life in the hands of another person needs to have a high level of trust in that person. The patient comes to the physician hoping — and usually believing — that he is absolutely trustworthy. Believing this, they are willing to tell the physician things they may not have revealed to anyone else — and they will expect to do what the physician tells them to do. The patient's trust and his expectation that the physician will tenaciously pursue the problem to a successful conclusion motivates the physician to respond with heroic effort. This mutual commitment generates a closeness that does not occur in other professional relationships.

The physician is also close to those with whom he works. His subordinates, whether they are house officers, nurses, patient-care assistants, office aides, or clerical help, are physically and emotionally close to him. He recognizes that each one is an essential part of the healing team. Therefore, he is open and honest with them, and they communicate at a high level. Usually they have a mutual respect that allows the physician's subordinates to share in the decision-making, but also causes them to accept the physician's final decision without question.

Furthermore, the physician is close to at least some of his colleagues. Although he tends not to be open in personal matters, (because he does not want to appear weak) he is close to them socially and professionally.

The Physician as a Community Leader

Outside the profession, the physician is expected to be a leader and to give generously of his time and talents in his community, civic club, church, or synagogue. In these leadership roles, he is expected to be a person of integrity, with high moral standards and exemplary deportment. In all aspects of his life,

he is expected to display good judgment. He is expected to be self-sacrificing, and no one expects him to refuse to do anything.

The physician, then, is seen by society as a heroic, God-like person — a superintelligent, self-sacrificing, moral, trustworthy, perfect, reliable, individual who has leadership abilities that are sacrificially presented to society for its use.

*The Physician at Home**

At home, the physician is seen in a different light. Here he is a man who wakes in the morning with stubble on his face. He may have halitosis and body odor; he is grumpy, and his brilliance is not apparent. He leaves the same rings in the tub and the same clothes on the floor that other husbands leave. He obviously doesn't have super-intelligence, because he can't or won't answer his wife's questions about what he wants for dinner. He is not efficient: he forgets to pay bills, he can't keep his bankbook straight, and he won't even go shopping for his own clothes. He can't keep up with his tools, and he doesn't fix the light switch when it needs repairing. Besides, he's never home. How can his family depend on him for anything? Thus his prestige at home is much less than away from it.

The telephone is ringing; another patient is calling. His patients need him but his wife and children need him too. How about them? Does he meet their needs, or does he just expect them to understand that he is married to his profession? He has a real wife, to be sure, but he also has a professional wife who is far more demanding than the one with whom he sleeps. This possibly number-one wife makes enormous demands. She gives little respite from his labors. She demands time and more time, effort and more effort. She is a merciless slave-driver who always demands that the physician keep on keeping on.

But then there is the flesh-and-

blood wife who has needs. She needs love, oneness and affirmation. She needs sex; she needs to communicate; she needs support in making decisions. She needs diversion and recreation. She needs time just to love her husband. She needs a hiding place. She needs protection from the buffetings of life. She needs *him*.

Most physicians have children as well. They will understand that he is a physician and respect him for what he does. They know that others need him, but they need him too. They need his love and support. They need him to teach them how to live, since he is supposed to know how to live. Since they usually have received his heredity, it is likely that they will have many of the same intellectual abilities and the same drives that he possesses. They will need to be guided into constructive pursuits that will bring them the satisfactions they must have if they are to be happy people. Most of all, they need a father.

Boys need a role model, someone they can strive to be like. A father must prepare them for their future roles as husbands and fathers. He must help them to learn how to carry out their responsibilities as a provider, leader and protector of the family.

Girls, on the other hand, need a father to teach them how to relate to other men. A good father must be a protector, who, by his attitude toward his wife and his children, teaches his daughters how to live in the mutually submissive relationship that is marriage. He must, by example, teach them about oneness.

A father must teach both his sons and daughters about sex and about morality. He must teach values and must demonstrate the usefulness of these values in his own life.

Need him? Yes, his wife and children need him. But how can he meet their needs when the phone rings all the time and when three other patients come into the office at the end of the day hoping he will see them? How can he meet his family's needs when a friend has asked him to participate in a fund-raising drive? How can he meet his family's

needs when he is so tired that all he can do when he finally comes home is to shower and go to bed? How can he meet their needs when the medical society demands that he spend 50 hours a year in continuing education? How can he meet their needs if he is never home?

The answer to all these questions is that he can't — unless he makes up his mind that he will. The physician must be willing to work at meeting his family's needs and at providing them with a quality of relationship that will make up for the lack of quantity.

THE PHYSICIAN'S WIFE

Because of the peculiar demands of his profession, a doctor — even more than most men — needs to use both head and heart in the selection of a mate. The physician's wife, like the physician, must have special attributes.⁹ She must be a mature person who is aware of the uniqueness of her husband's role in society. She must be willing to subordinate her needs to the needs of his patients. She must be satisfied with a small fraction of his waking hours and must expect to have their personal, social, recreational, and family life disrupted by emergencies.

The physician's wife needs to have financial expertise. She must be prepared to handle the finances of her household, and when she first marries she may even have to support her husband while he finishes his education. She will have to postpone many of her heart's desires until the day when her husband becomes the breadwinner. Among those desires may be her need for love and for sex, since the demands of his training and his constant fatigue will limit their time together to a few hours each week. It almost seems folly for a woman to enter into such a relationship.

The financial picture doesn't improve a great deal when the physician finally finishes his training and enters practice. He and his wife must borrow money for him to open an office, and they must borrow some money to buy a house and furniture and cars. For several years all that he makes goes to pay off the debts. Since physicians marry late,

*Although we are aware of the increasing numbers of women who are becoming physicians, it is difficult to discuss their problems in marriage since not enough time has lapsed in a society whose attitude has changed toward women in medicine for us to intelligently discuss their problems. We have, therefore, chosen to discuss the problems of male physicians only.

children usually start arriving before the parents are out of debt. With children come the expenses of braces, dancing lessons, camp, piano lessons, swimming lessons, private schools, Scout trips. Most physicians are still sending children to college long after their contemporaries have been freed of this responsibility.³

Financial problems, however, are just the beginning for the doctor's wife. She, like her husband, is expected to become involved in community, church and school activities. If she has children, her responsibility for them is far greater than that of the average mother. Because Dad is not available, Mother will need to take care of the children's minor medical problems. Even though there is theoretically a "doctor in the house," she may have to attend to everyone's medical problems, including her husband's. She must also be the disciplinarian. It is likely that she will have to make and enforce the rules for appropriate behavior, set curfews, prescribe dress, and punish transgression.

Furthermore, she will be responsible for the children's education. She must see to it that they develop good study habits, that they receive encouragement, that their handicaps are diagnosed and remedied when possible. She must teach them how to manage money, how to relate to others, especially those of the opposite sex, how to exercise responsibility, how to discipline themselves, and how to manage freedom. She must be sensitive to their moods and be a good listener when the children need someone with whom to talk. Usually it is she who sees to the children's religious upbringing.

While doing all these tasks, the physician's wife has to look after the house — not just the everyday maintenance but, in many cases, remodeling and major repair jobs. It often falls her lot to see to the outdoor maintenance and landscaping.

In addition, responsibility for the physician's social life falls almost entirely on the shoulders of his wife. It is she who must plan and give the parties that are so important to his

career. She also has to know which invitations to accept and which to decline — and for this purpose she needs good communication with her husband's secretary. (Many a doctor's wife has found that collaborating with his secretary is the only way to protect him from the countless demands made on him.)

No matter how hurried or harried she is, the wife has to take care of her personal appearance. Society expects her to be attractive and well dressed.

In short, the ideal physician's wife is a beautiful, charming, intelligent, self-sacrificing, moral, trustworthy, perfectionistic, and reliable superwoman. All these qualities, along with her talents and leadership abilities, she offers on the altar of her husband's career and her family's happiness.

THE PHYSICIAN'S RESPONSIBILITIES TO HIS FAMILY

To meet the expectations of society and to survive the strains these expectations create in their personal lives and on their marriage, the physician and his wife need to be unusually endowed people who enter marriage with a commitment to make it work.¹⁰ If their relationship begins as one that is truly loving, and if they have committed themselves to each other, they will be united spiritually as well as physically. Each will try to live for the other, putting the other's best interests and welfare above his or her own.

When two people do this, they are able to work out differences and to forgive each other, so that conflicts are resolved. To work out differences, a couple must have time together, time for communion, for communication, for sex, and for comfort. Every day must have a few moments of private sharing. Occasional weekends alone with each other have to be a certainty.

Just as it is important for a husband to spend time with his wife, it is important for a father — even a physician father — to spend time with his children. He must be involved in their nurture. When they are young, he should sometimes

take the responsibility of caring for the children so that his wife can have a free evening. A father should occasionally roughhouse with his children, read them bedtime stories, hear their prayers and perhaps pray with them. He should take them on recreational expeditions and teach them some of his own skills — perhaps how to boat, fish, water ski, handle a gun, play tennis or golf, and go hiking or camping. Family vacations are a necessity. All of these activities should be carried out in an atmosphere of love and kindness.

How can the physician fulfill these responsibilities to his wife and children? Only by deliberately setting aside time for them, and then making this time sacrosanct. The world will not come to an end if he does not see one more patient, if he doesn't attend to one other board meeting, if he doesn't serve in one more fund-raising drive, or play one more round of golf or one more game of tennis. He must learn to say "no," or get someone else (his secretary and/or his wife) to say it for him. Most physicians, because they are trained that way, will say "yes" to every demand, even though their families suffer.

It takes time and work to make a good marriage and to raise children who are prepared to cope with today's world. The physician who has taken on the responsibilities of marriage and fatherhood owes it to his wife and children — and to society — to find time and strength for his family, even at the cost of failing to live up to the self-image he has created.

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Toxic Encounters of the Dangerous Kind

The Narcotic Triad

Many patients present to emergency rooms because of purposeful or accidental overdose with narcotics or narcotic-like substances. The classic clinical picture of such an overdose is often referred to as the "narcotic triad" (1) miosis (pupils ≤ 2 mm), (2) respiratory depression, (3) coma.

Some of the drugs that will produce this triad include: morphine, heroin, pentazocine (Talwin), methadone, codeine, oxycodone (Percodan), propoxyphene (Darvon), meperidine (Demerol), paregoric, dextromethorphan, diphenoxylate (Lomotil), loperamide (Imodium), and butorphanol (Stadol).

Fortunately a narcotic antagonist, naloxone hydrochloride (Narcan), is available to reverse the toxic clinical features. This drug, unlike the earlier narcotic antagonists, levallorphan tartrate (Lorfan) or nalorphine hydrochloride (Nalline), does not produce severe agitation and respiratory depression. Each ampoule of naloxone contains 0.4 mg/ml; the dose for adults is 2 mg IV and can be repeated in 5 minutes if necessary. A comatose child should be given 0.01 mg/kg initially; if no

clinical improvement is seen within 2-3 minutes, 0.1 mg/kg is administered. When propoxyphene has been ingested, the larger dose is often necessary. Naloxone is quite safe even in multiples of the manufacturer's recommended dose. Thus repeated doses of naloxone may be necessary until the narcotic is metabolized and excreted. The half-life of naloxone is 60 minutes whereas the half-life of the offending narcotic is usually much longer. The important thing to remember is not to be complacent if your patient dramatically awakens after the first dose of naloxone — the patient will probably "crash" again.

Consider narcotic ingestion in an adult or child in coma (especially with miosis) and administer a trial dose of naloxone. This is a safe, efficient procedure which can lead to a rapid diagnosis and a successful outcome.

Ronald B. Mack, M.D.
Chairman, Committee on Accidents
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Final classification of the less-than-effective indications requires further investigation.

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tion-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions) reported following discontinuation of the drug.

Usage in Pregnancy: Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy. Advise patients to discuss therapy if they intend to or do become pregnant.

As with all anticholinergics, inhibition of lactation may occur.

Precautions: In elderly and debilitated, limit dosage to smallest effective amount to preclude ataxia, oversedation, confusion (no more than 2 capsules/day initially; increase gradually as needed and tolerated). Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider pharmacology of agents, particularly potentiating drugs such as MAO inhibitors, phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions reported in psychiatric patients. Employ usual precautions in treating anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation reported very rarely in patients receiving the drug

and/or oral anticoagulants; causal relationship not established.

Adverse Reactions: No side effects or manifestations not seen with either compound alone reported with Librax. When chlordiazepoxide HCl is used alone, drowsiness, ataxia, confusion may occur, especially in elderly and debilitated; avoidable in most cases by proper dosage adjustment, but also occasionally observed at lower dosage ranges. Syncope reported in a few instances. Also encountered: isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent, generally controlled with dosage reduction, changes in EEG patterns may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice, hepatic dysfunction reported occasionally with chlordiazepoxide HCl, making periodic blood counts and liver function tests advisable during protracted therapy. Adverse effects reported with Librax typical of anticholinergic agents, i.e., dryness of mouth, blurring of vision, urinary hesitancy, constipation. Constipation has occurred most often when Librax therapy is combined with other spasmolytics and/or low residue diets.

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Editorials

THE PHYSICIAN AT RISK — AT HOME AND ABROAD

When novelists and political columnists write novels and columns about themselves, they may be accused of being out of touch with the world about them and a withering of their creative talents may be suspected. When physicians scrutinize each other, we cannot be open to similar accusations. But when we study our own behavior, can we be compared to such celebrities? Most assuredly not because we are not being paid by the word and for the thought and we are neither elegant stylists nor given to such lucubrations. We occupy a somewhat different place in society — as healer, priest, magician, prophet and even as businessman and have spawned a different set of symbols for our profession, some perhaps better discarded and others worth more emphasis.

In other eras we have worn elaborate emblematic robes and continue to wear plain ones¹ and through the centuries have developed our own instruments though auto mechanics have joined us of late as stethoscopists. We have also acquired an arcane script said to waste the time of nurses and pharmacists because of its illegibility,² have appropriated (as neurologists) the respected and decorative hat pin as a tool of our trade³ and, in a more septic era, carried catheters in our hats. But more importantly we have listened and laid on hands, learning to speak with the body when the tongue fails. Even the prescription serves as a communication: the symbolic writing and the laying of the hand to the pen so that the magic therapeutic potion may be dispensed.

Because of this role, ancient and generally honorable, we physicians have been able to establish professional organizations and to achieve a certain autonomy, nowadays threatened in an increasingly technological environment as we become medical managers and serve as coaches of healing teams.⁴ What are our ward rounds but mobile committee meetings with nurses, social workers, house officers, dieticians and clinical pharmacists with doctors as chairmen? In this milieu despite our increasing understanding of biologic phenomena and more effective therapies, we see bumper stickers offering such imperatives as "Send your child to medical school! Support a lawyer!" and are confounded by the Federal Register, the Federal Trade Commission and a variety of other governmental bodies.

How did we establish ourselves in such a City on the Hill to have it be so challenged and at the same time so

sought after? Osmond⁵ suggests that our autonomy is derived from three attributes: knowledge, hard-earned through long apprenticeship and not easily available to others; moral authority because we are always or are expected to be primarily concerned with the good of our patients and not ourselves, and Aesculapian authority, God-given, even charismatic. With such attributes, how can the physician be protected from group deification or self-love? By peer regulation as in ancient guilds, the AMA and our specialty societies, examinations and licensing bodies. But when things medical consume about 10% of the gross national product, the public paying the bill through taxes, third parties or directly may want to assess the quality of that control and question whether a new system of assurance is needed.

Little wonder then that physicians, stationed as we

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—MAY WE SERVE YOU?—

are at the crossroads of the marketplace, share with ministers' wives, in small southern towns, a sort of goldfish bowl syndrome and that all conceivable aspects of our existence are being subjected to scrutiny. We have been urged to use our offices more effectively, to see more patients in less time in the interest of efficiency and in obeisance to the cost-benefit ratio. We are being impelled to continue our medical education, although the good physician never stops learning and the bad one may have never started. Our clinical competence, and performance, and our decision making powers and data processing are being constantly assessed.⁶⁻⁹ Our emotional satisfactions and failures are drawing increasing attention¹⁰ and the lives of medical college deans' wives have been chronicled.¹¹ Even the holy sanctum of the psychoanalyst, his listening chamber, has been invaded by the scholar with tape recorder and the phrases and vocal characteristics of psychiatrists and encouched patients analyzed by outsiders. Pratt and McMath¹² have accused us with good reason of hypocompetence as interviewers. Yet what medical school, what specialty board, what state licensing body has forsworn its allegiance to multiple-choice examinations? How does one grade listening or the laying on of hands?

We have learned that medicine in this post-industrial society does not obey the economic law of supply and demand. Instead the law of diminishing returns rules as litigation forces some of us into defensive diagnostic studies while third parties remain enchanted by obligatory admission laboratory studies which yield the less the more measured. Despite the

well-intentioned, costly efforts of our federal system, we as a people are no happier and no more secure emotionally than our ancestors.

Medicine is an occupation fraught with risk not only emotional and economic but also physical. Even the symbolic hat pin can be a vector for hepatitis³ while the anesthesiologist may be endangering his issue by exposure to nitrous oxide^{13,14} and himself to halothane¹³ and our vulnerability to tuberculosis is a fact of long-standing.¹⁵ Overwork is a real threat: in Rhoads' study¹⁶ six of 10 victims were physicians while alcoholism among doctors has even drawn Donahue's television attention on a November Monday morning. Temptation and opportunity make us peculiarly susceptible to drug addiction and suicide as Crawshaw¹⁷ tells us has a tragic appeal.

If prevention is kinder and cheaper than therapy, what more can we do? Thomas¹⁸ in her continuing studies of Johns Hopkins medical graduates has described differences perhaps recognizable in medical school which have prognostic significance. The more tense and anxious the students and the greater their cigarette and alcohol consumption, the greater likelihood of premature disease or death from heart attack, cancer, suicide or stroke. But it is difficult to plumb the inner realities of the applicant to medical school and illegal to ask the would-be physician questions about health.* If our profession is to maintain something of the autonomy necessary for its proper practicing, we need to develop means for measuring our own ability and capacity to develop defenses and to recognize how and when to employ them for the good of ourselves, our families, and yes, our patients. Vailant¹⁹⁻²¹ points to four traits — humor, altruism, aptitude for sublimation and capacity for suppression as essential if a physician is to adapt effectively. It is almost as if mature defenses are the virtues so treasured in medieval times and the defenses of the disordered personality akin to the seven deadly sins: pride, envy, anger, sloth, avarice, gluttony and lust.

So when Wilson and Larson (p 106) and Taylor (p 123) address us, we must listen. We can all be victims of status anxiety and we can hardly avoid fearing failure. We may be faced with conflicts when our senses of obligation for patients and our allegiances to our family are highly developed. We should pursue virtue and be thankful for our good fortune. The greatest imperative is to realize that we can only maintain our autonomy as a profession and stability at home if we never cease that pursuit.

J.H.F.

*If characteristics which have poor prognostic implications are considered handicaps, and it is difficult to think otherwise, preadmissions inquiry about such attributes cannot be made according to Section 504 of the Rehabilitation Act of 1973. If information about such handicaps is offered voluntarily or inadvertently, it cannot affect any decision about admission adversely. Medical information can be sought after an applicant is enrolled if it is not used for excluding or disqualifying matriculants. Thus while measures, legal and social, may be employed to maintain standards of practice of medical graduates, similar measures do not appear to be available to our medical colleges. So cure after stress rather than preventive before practice seems to be the ordained approach to helping impaired physicians.

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COST CONTROL: ON KEEPING ONE'S HAND IN

Many years ago when physical diagnosis was still considered an exceptionally valuable tool, Dr. James J. Waring¹ discussed before the American College of Physicians in 1947 some particularly important aspects of that technique and illustrated them appropriately. One adage cited by Dr. Waring should attract our attention in this era of compulsory completeness and comprehensive chemical analysis — "He who doesn't put his finger in will put his foot in." This

lesson seems to have been well-learned as far as cervical carcinoma goes but cancer of the prostate behaves differently. Because abnormalities in acid phosphatase production are characteristic of prostatic malignancy, determination of the serum content of this enzyme has been considered helpful in assessing patients with stony-hard glands. Recently the predictive and diagnostic value of radio-immunoassay of prostatic acid phosphatase (PAP) has been seriously challenged by Watson and Tang who have demonstrated that PAP is of little positive predictive value in screening for prostatic cancer,² particularly when digital examination discloses no glandular nodules. It of course continues to be valuable in staging the pathologic process and in confirming diagnosis.

Guinan and his associates³ have remarked that before 1920 the examining finger was the only diagnostic tool of value in seeking out such lesions and have noted the proliferation of costly and complex procedures to confirm our sense of touch. After evaluating 300 patients with prostatic cancer, they concluded that rectal examination is still the most effective procedure in screening and that it is certainly cheaper and quicker, something our medical ancestors had already appreciated.

J.H.F.

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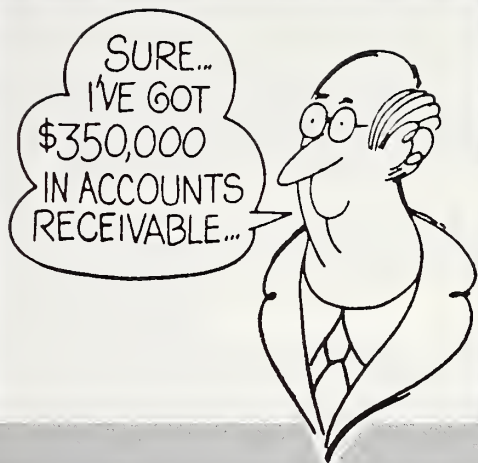
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Getting the Most Out of Your Collection Agency

Some patients who can pay you, won't pay you — that's a fact. In fairness to those patients who make an effort to pay you for your services something must be and should be done about the first group.

A collection agency might be the answer — especially if your office staff does a good job on following up on overdue accounts. After repeated contacts and requests to pay turning "won't pay" patients over may be your best alternative.

We recommend selecting an agency that has had experience in collecting for physicians, dentists, and hospitals. Checking agency references is a must. Then your next step is being sure that your staff cooperates with the agency in the four ways we've outlined.

1. **Use a good "patient history" form.** It will help your staff and your collection agency to do a better job on delinquent accounts. At the very least, you'll need the patient's (or responsible person's) name, full address, phone number, marital status, birthdate, employer, employer's address and phone, the name of the person or physician who referred the patient and full insurance information. If the patient is married you should ask for the same information on the spouse. And remember to have patients fill out a new form periodically — annually is recommended. Today, name, marital status, and jobs change with great frequency.
2. **Keep good records.** This means your

staff should record all written or telephone contacts with a patient as they try to collect. Share the record of your efforts with the collection agency. *Never* bill or contact the patient after turning the account over.

3. **Turn accounts over on a regular, monthly basis.** If a patient hasn't responded to repeated billing and contacts from your office after a period of time — take action. Medical accounts should be given to a professional collector after 120 or 180 days. Many physicians wait too long — as long as a year or two — making it almost impossible for even the agency to do its job. "Aging" your accounts will help you determine which ones to refer. Your accountant can show your staff how to do this.
4. **Don't ask for "progress reports."** Repeated calls by your staff for information about the status of delinquent accounts isn't a good idea. Agency personnel are busy "reporting" when they should be "collecting."

Do remember that an effective in-office collection system is a must. Give your staff your guidance and support in this area.

One word of caution. If your account followup indicates the patient's refusal to pay is based on dissatisfaction with the service, review the account carefully before turning it over to a collection agency. A malpractice suit can be triggered by collection enforcement of an account of a patient with a substantive grievance.

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2. The "place" and "sponsor" are indicated for a program only when these differ from the place and source to write "for information."

February 5-6

"1981 Conference for Medical Leadership"

Place: Velvet Cloak Inn, Raleigh

Fee: \$45

Credit: 6 hours

For Information: Kathy D. Jones, Executive Assistant, Communications, North Carolina Medical Society, Raleigh, (919) 833-3836.

February 11

"Stress As A Factor in Illness"

Place: Pitt County Memorial Hospital, Greenville

Fee: \$15

Credit: 3 hours

For Information: F. M. Simmons Patterson, M.D., Assistant Dean for Continuing Medical Education, East Carolina University School of Medicine, Greenville, 27834

Feb. 18

"Surgical Care - A Team Approach"

Place: Holden Inn, Sanford

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Indications

Cyclacillin has less *in vitro* activity than other drugs in the ampicillin class and its use should be confined to these indications. Treatment of the following infections:

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Otitis media caused by *S. pneumoniae* (formerly *D. pneumoniae*) and *H. influenzae*
Acute exacerbation of chronic bronchitis caused by *H. influenzae*

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SKIN AND SKIN STRUCTURES (integumentary) infections caused by Group A beta-hemolytic streptococci and staphylococci, non-penicillinase producers

URINARY TRACT INFECTIONS caused by *E. coli* and *P. mirabilis*. (This drug should not be used in any *E. coli* and *P. mirabilis* infections other than urinary tract.)

NOTE: Perform cultures and susceptibility tests initially and during treatment to monitor effectiveness of therapy and susceptibility of bacteria. Therapy may be instituted prior to results of sensitivity testing

Contraindications Contraindicated in individuals with history of an allergic reaction to penicillins

Warnings Cyclacillin should only be prescribed for the indications listed herein.

Cyclacillin has less *in vitro* activity than other drugs of the ampicillin class. However, clinical trials demonstrated it is efficacious for recommended indications.

Serious and occasional fatal hypersensitivity (anaphylactoid) reactions have been reported in patients on penicillin. Although anaphylaxis is more frequent following parenteral use, it has occurred in patients on oral penicillins. These reactions are more apt to occur in individuals with history of sensitivity to multiple allergens. There are reports of patients with history of penicillin hypersensitivity reactions who experienced severe hypersensitivity reactions when treated with a cephalosporin. Before penicillin therapy, carefully inquire about previous hypersensitivity reactions to penicillins, cephalosporins and other allergens. If allergic reaction occurs, discontinue drug and initiate appropriate therapy. Serious anaphylactoid reactions require immediate emergency treatment with epinephrine. Oxygen, I.V. steroids, airway management, including intubation, should also be administered as indicated.

Precautions Prolonged use of antibiotics may promote overgrowth of nonsusceptible organisms. If superinfection occurs, take appropriate measures.

PREGNANCY Pregnancy Category B. Reproduction studies performed in mice and rats at doses up to 10 times the human dose revealed no evidence of impaired fertility or harm to the fetus due to cyclacillin. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, use this drug during pregnancy only if clearly needed.

NURSING MOTHERS It is not known whether this drug is excreted in human milk. Because many drugs are, exercise caution when cyclacillin is given to a nursing woman.

Adverse Reactions Oral cyclacillin is generally well tolerated. As with other penicillins, untoward sensitivity reactions are likely, particularly in those who previously demonstrated penicillin hypersensitivity or with history of allergy, asthma, hay fever, or urticaria. Adverse reactions reported with cyclacillin: diarrhea (in approximately 1 out of 20 patients treated), nausea and vomiting (in approximately 1 in 50), and skin rash (in approximately 1 in 60). Isolated instances of headache, dizziness, abdominal pain, vaginitis, and urticaria have been reported. (See WARNINGS) Other less frequent adverse reactions which may occur and are reported with other penicillins are: anemia, thrombocytopenia, thrombocytopenic purpura, leukopenia, neutropenia, and eosinophilia. These reactions are usually reversible on discontinuation of therapy.

As with other semisynthetic penicillins, SGOT elevations have been reported.

As with antibiotic therapy generally, continue treatment at least 48 to 72 hours after patient becomes asymptomatic or until bacterial eradication is evidenced. In Group A beta-hemolytic streptococcal infections, at least 10 days' treatment is recommended to guard against risk of rheumatic fever or glomerulonephritis. In chronic urinary tract infection, frequent bacteriologic and clinical appraisal is necessary during therapy and possibly for several months after. Persistent infection may require treatment for several weeks.

Cyclacillin is not indicated in children under 2 months of age.

Patients with Renal Failure Cyclacillin may be safely administered to patients with reduced renal function. Due to prolonged serum half-life, patients with various degrees of renal impairment may require change in dosage level (see DOSAGE AND ADMINISTRATION in package insert).

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| Bronchitis and Pneumonia | | |
| Mild or Moderate Infections | 250 mg q.i.d. | 50 mg/kg/day q.i.d. |
| Chronic Infections | 500 mg q.i.d. | 100 mg/kg/day q.i.d. |
| Otitis Media | 250 mg to 500 mg q.i.d.† | 50 to 100 mg/kg/day† |
| Skin & Skin Structures | 250 mg to 500 mg q.i.d.† | 50 to 100 mg/kg/day† |
| Urinary Tract | 500 mg q.i.d. | 100 mg/kg/day |

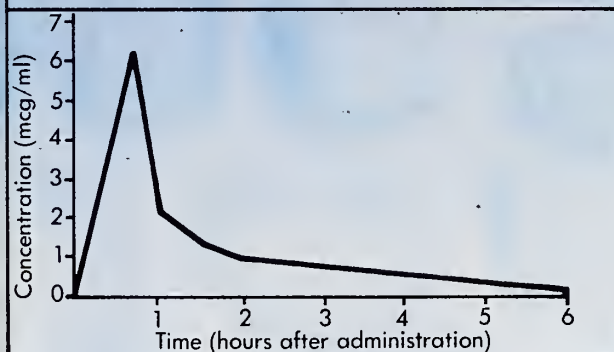
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Credit: 3 hours

For Information: F. M. Simmons Patterson, M.D., Assistant Dean
for Continuing Medical Education, East Carolina University
School of Medicine, Greenville 27834

March 11-14

Internal Medicine 1981
Place: Berryhill Hall, UNC School of Medicine
Fee: \$175

Credit: 25 hours
For Information: William B. Wood, M.D., Director of Continuing
Education, UNC School of Medicine, Chapel Hill 27514 (919)
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March 16-20

5th Annual Family Medicine Review Course
Place: Bowman Gray School of Medicine
Fee: \$275

Credit: 40 hours
For Information: Emery C. Miller, M.D., Assoc. Dean for Con-
tinuing Education, Bowman Gray School of Medicine,
Winston-Salem 27103

March 18

"The Best of Orthopedics"
Place: Lee County Hospital, Sanford
Fee: \$12

Credit: 3.5 hours
For Information: (919) 775-2111 ext. 219

March 25-27

"Alcoholism: Biomedical Research"

Place: Carolina Inn, Chapel Hill

Fee: \$30

For Information: The Center for Alcoholism Studies, UNC School
of Medicine, Chapel Hill 27514

March 26-27

Physician Extenders

Place: Bowman Gray School of Medicine, Winston-Salem 27103

Credit: 10 hours

For Information: Emery C. Miller, M.D., Assoc. Dean for Con-
tinuing Education, Bowman Gray School of Medicine

March 27-28

1981 TB Workshop

Place: UNC School of Medicine

Fee: None

Credit: 9 hours

For Information: William B. Wood, M.D., Director of Continuing
Education, UNC School of Medicine, Chapel Hill 27514

March 27-28

Frank R. Lock Symposium in Obstetrics and Gynecology

Place: Bowman Gray School of Medicine

Fee: \$150

Credit: 9 hours

For Information: Emery C. Miller, M.D., Assoc. Dean for Con-
tinuing Education, Bowman Gray School of Medicine,
Winston-Salem 27103

April 2-3

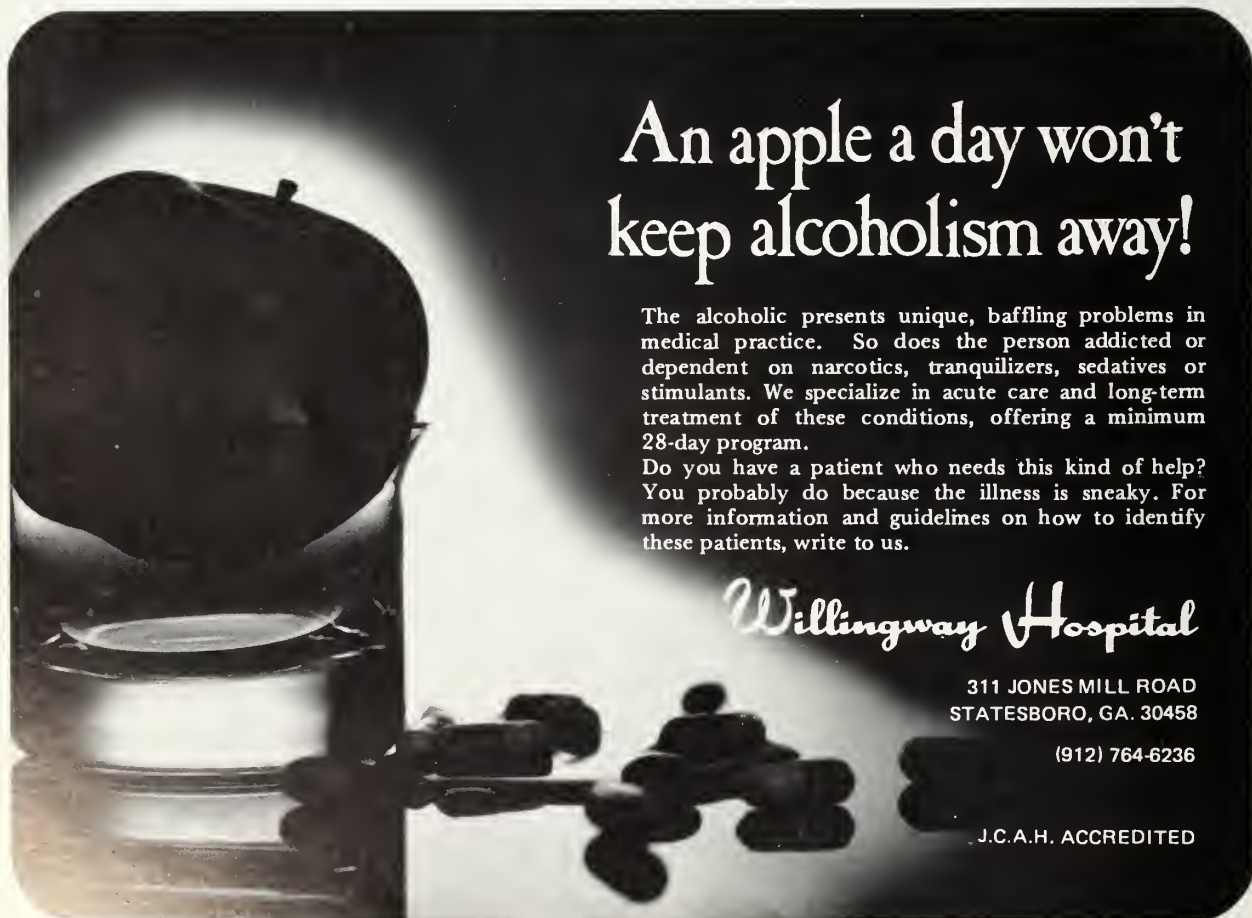
5th Annual Cancer Research Symposium

Place: UNC School of Medicine

Fee: None

Credit: 11 hours

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April 3-4

"Practical Pediatrics"
Place: Bowman Gray School of Medicine
Fee: \$50
Credit: 9 hours
For Information: Emery C. Miller, M.D., Assoc. Dean, Bowman Gray School of Medicine, Winston-Salem 27103

April 4-5

"5th Annual Radiology Update"
Place: Bowman Gray School of Medicine
Fee: \$50/75
Credit: 9 hours
For Information: Emery C. Miller, M.D., Assoc. Dean, Bowman Gray School of Medicine, Winston-Salem 27103

April 8

"Current Concepts in Cardiology"
Place: Pitt County Memorial Hospital, Greenville
Fee: \$15
Credit: 3 hours
For Information: F. M. Simmons Patterson, M.D., Assistant Dean for Continuing Medical Education, East Carolina University School of Medicine, Greenville 27834

April 11-12

Geriatric Anesthesia
Place: UNC School of Medicine
Fee: \$100
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For Information: William B. Wood, M.D., Director of Continuing Education, UNC School of Medicine, Chapel Hill 27514

April 16

Movement Disorders Update
Place: UNC School of Medicine
Fee: \$20
Credit: 5 hours
For Information: William B. Wood, M.D., Director of Continuing Education, UNC School of Medicine, Chapel Hill 27514

April 16 and 17

"Third Annual Health Law Forum"
Place: Pitt County Memorial Hospital, Greenville
Fee: \$100
Credit: 8½ hours
For Information: F. M. Simmons Patterson, M.D., Assistant Dean for Continuing Medical Education, East Carolina University School of Medicine, Greenville 27834

April 22

Update on the Care of the Diabetic Patient
Place: Howard Johnson Motel, Greensboro
Fee: \$35
Credit: 5 hours
For Information: William B. Wood, M.D., Director of Continuing Education, UNC School of Medicine, Chapel Hill 27514

April 24-25

Symposium on Metabolic Bone Disease
Place: Velvet Cloak, Raleigh
Fee: \$20
Credit: 9 hours
For Information: William B. Wood, M.D., Director of Continuing Education, UNC School of Medicine, Chapel Hill 27514

April 29-30

Current Concepts in Hemostasis and Thrombosis
Place: UNC School of Medicine
Fee: \$100
Credit: 14 hours
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The items listed in the above column are for the six months immediately following the month of publication. Requests for listing

should be received by "WHAT? WHEN? WHERE?", P.O. Box 27167, Raleigh 27611, by the 10th of the month prior to the month in which they are to appear. A "Request for Listing" form is available on request.

AUXILIARY TO THE NORTH CAROLINA MEDICAL SOCIETY

Support for the Medical Family

"The problem of the impaired physician is a medical family concern and one which we can all help to solve if we work together in full cooperation." Mrs. Harry S. Dvorsky, AMA Auxiliary president-elect, issued this challenge at the AMA's Fourth National Conference on the Impaired Physician. Mrs. Dvorsky emphasized the need for each medical family to pay attention to each member's physical and emotional health status and specifically advocated support programs for spouses and families of impaired physicians to be started within the medical community.

I am particularly interested in the AMA Auxiliary focus on the welfare of medical families since my husband and I have written articles and conducted meetings on medical marriage for medical students, residents and practicing physicians. In addition I teach a course on Medical Ethics and Human Values at the Bowman Gray School of Medicine of Wake Forest University for first year medical students. At this early stage of their professional socialization these future physicians are expressing interest in the lifestyle of a physician and measures they can take to prevent impairment. With four medical schools in North Carolina we in the medical profession have an opportunity to reach many future physicians at a formative stage.

Medical families have unique features which can be expressed in the framework of a life cycle. Each stage can give rise to problems that will affect the functioning of individual members. Let us review these stages and the potential danger areas:

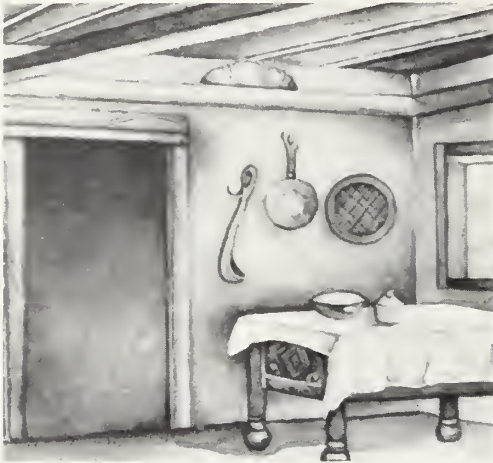
1. Medical Training Years: This is the time when the couple are negotiating status and roles in their relationship. The student/physician may attempt to place his work in a superior category, taking precedence over all else. Verbal symptoms are the phrases, "I have no time," "I have to study," or "I have to go back to the hospital." The spouse's reaction to these words will determine the future pattern of control in the relationship. Passive acceptance or outright hostility will be less helpful than open discussion.

The medical training years can be the best time to develop mutual interests outside medicine — boating, stamp collecting, dancing, music — that will give strength to future relationships.

2. Beginning a Practice: Spouses often are excluded from the physician's professional activities at this stage, either unintentionally because

Yesterday's Folk Remedy:

A rye loaf in the rafters.



Early in this century in Central Europe, almost every farm family kept a loaf of moldy rye bread on one of the kitchen beams. When any family member was cut or bruised, it was an old custom to cut a thin slice from the outside of the loaf, mix it into a paste with water, and apply it to the wound with a bandage. It was believed that no infection would then result from the cut.'



Today's Tradition: **Tegopen**[®] (cloxacillin sodium)

for the treatment* of
known or suspected
staphylococcal
infections such as:

- Acute sinusitis
- Furunculosis and carbuncles
- Impetigo
- Secondarily infected dermatitis
- Cellulitis
- Abscesses
- Infected sebaceous cysts

In serious, deep-seated
staph infections, 500 mg
q.i.d. dosage is
recommended.[†]

- Tegopen has been reported active against 96% of *Staphylococcus aureus*.²
- 80% of *S aureus* has been reported resistant to amoxicillin and ampicillin.[‡]
- 88% of *S aureus* has been reported resistant to penicillins G and V.[‡]
- Staph resistance to erythromycin may develop during a course of therapy.³



Available as 500-mg and 250-mg capsules
and Oral Solution 125 mg/5 ml.

Tegopen[®] (cloxacillin sodium) Today's Penicillin for Today's Physician

1. Florey HW, Chain E, Heatley NG, et al: *Antibiotics*. London, Oxford University Press, 1949, p 2
2. Bac-Data Bacteriologic Report, Professional Market Research, 1978-1979. The clinical significance of *in vitro* data is unknown.
3. Erythromycin prescribing information (in *Physicians' Desk Reference*, ed 34. Oradell, NJ, Medical Economics Co, 1980) states that staph resistance may develop during treatment.

See brief summary of prescribing information on
an adjoining page.

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*Note: The choice of Tegopen should take into consideration the fact that it has been shown to be effective only in the treatment of infections caused by pneumococci, Group A beta-hemolytic streptococci, and penicillin G-resistant and penicillin G-sensitive staphylococci. If the bacteriology report later indicates that the infection is due to an organism other than a penicillin G-resistant staphylococcus sensitive to cloxacillin sodium, the physician is advised to continue therapy with a drug other than cloxacillin sodium or any other penicillinase-resistant semisynthetic penicillin.

†In serious, life-threatening infections, oral preparations of the penicillinase-resistant penicillins should not be relied on for initial therapy.

‡Not all isolates may have been tested using both discs.

Tegopen®

(cloxacillin sodium)
Capsules and Oral Solution

Brief Summary of Prescribing Information

For complete information, consult Official Package Circular
(12) 9-11/75

INDICATIONS

Although the principal indication for cloxacillin sodium is in the treatment of infections due to penicillinase-producing staphylococci, it may be used to initiate therapy in such patients in whom a staphylococcal infection is suspected. (See Important Note below.)

Bacteriologic studies to determine the causative organisms and their sensitivity to cloxacillin sodium should be performed.

IMPORTANT NOTE

When it is judged necessary that treatment be initiated before definitive culture and sensitivity results are known, the choice of cloxacillin sodium should take into consideration the fact that it has been shown to be effective only in the treatment of infections caused by pneumococci, Group A beta-hemolytic streptococci, and penicillin G-resistant and penicillin G-sensitive staphylococci. If the bacteriology report later indicates the infection is due to an organism other than a penicillin G-resistant staphylococcus sensitive to cloxacillin sodium, the physician is advised to continue therapy with a drug other than cloxacillin sodium or any other penicillinase-resistant semi-synthetic penicillin.

Recent studies have reported that the percentage of staphylococcal isolates resistant to penicillin G outside the hospital is increasing, approximating the high percentage of resistant staphylococcal isolates found in the hospital. For this reason, it is recommended that a penicillinase-resistant penicillin be used as initial therapy for any suspected staphylococcal infection until culture and sensitivity results are known.

Cloxacillin sodium is a compound that acts through a mechanism similar to that of methicillin against penicillin G-resistant staphylococci. Strains of staphylococci resistant to methicillin have existed in nature and it is known that the number of these strains reported has been increasing. Such strains of staphylococci have been capable of producing serious disease in some instances resulting in fatality. Because of this, there is concern that widespread use of the penicillinase-resistant penicillins may result in the appearance of an increasing number of staphylococcal strains which are resistant to these penicillins.

Methicillin-resistant strains are almost always resistant to all other penicillinase-resistant penicillins (cross-resistance with cephalosporin derivatives also occurs frequently). Resistance to any penicillinase-resistant penicillin should be interpreted as evidence of clinical resistance to all, in spite of the fact that minor variations in *in vitro* sensitivity may be encountered when more than one penicillinase-resistant penicillin is tested against the same strain of staphylococcus.

CONTRAINDICATIONS

A history of a previous hypersensitivity reaction to any of the penicillins is a contraindication.

WARNING

Serious and occasionally fatal hypersensitivity (anaphylactoid) reactions have been reported in patients on penicillin therapy. Although anaphylaxis is more frequent following parenteral therapy it has occurred in patients on oral penicillins. These reactions are more apt to occur in individuals with a history of sensitivity to multiple allergens.

There have been well documented reports of individuals with a history of penicillin hypersensitivity reactions who have experienced severe hypersensitivity reactions when treated with a cephalosporin. Before therapy with a penicillin, careful inquiry should be made concerning previous hypersensitivity reactions to penicillins, cephalosporins, and other allergens. If an allergic reaction occurs, the drug should be discontinued and the patient treated with the usual agents, e.g., pressor amines, antihistamines and corticosteroids.

Safety for use in pregnancy has not been established.

PRECAUTIONS

The possibility of the occurrence of superinfections with mycotic organisms or other pathogens should be kept in mind when using this compound, as with other antibiotics. If superinfection occurs during therapy, appropriate measures should be taken.

As with any potent drug, periodic assessment of organ system function, including renal, hepatic, and hematopoietic, should be made during long-term therapy.

ADVERSE REACTIONS

Gastrointestinal disturbances, such as nausea, epigastric discomfort, flatulence, and loose stools, have been noted by some patients. Mildly elevated SGOT levels (less than 100 units) have been reported in a few patients for whom pretherapeutic determinations were not made. Skin rashes and allergic symptoms, including wheezing and sneezing, have occasionally been encountered. Eosinophilia, with or without overt allergic manifestations, has been noted in some patients during therapy.

USUAL DOSAGE

Adults: 250 mg q 6h
Children: 50 mg /Kg /day in equally divided doses q 6h. Children weighing more than 20 Kg. should be given the adult dose. Administer on empty stomach for maximum absorption.

A B INFECTIONS CAUSED BY GROUP A BETA-HEMOLYTIC STREPTOCOCCI SHOULD BE TREATED FOR AT LEAST 10 DAYS TO HELP PREVENT THE OCCURRENCE OF ACUTE RHEUMATIC FEVER OR ACUTE GLOMERULONEPHRITIS.

SUPPLIED

Capsules—250 mg in bottles of 100, 500 mg in bottles of 100
Oral Solution—125 mg /5 ml in 100 ml and 200 ml bottles

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Division of Bristol-Myers Company
Syracuse, New York 13201

of the bureaucratization of medical practice or by choice as children and/or the spouse's own career make demands. Couples may find themselves pulled in different directions and losing contact.

If the young medical family beginning a practice shares in decision-making, stresses will also be shared. This stage in the relationship offers an opportunity for both spouse and children to learn to communicate freely and constructively.

3. **Maximum Career Demands:** Time pressures build so that the physician may be unable to meet the needs of both family and patients. This stage will be especially stressful for the increasingly large number of female physicians who will find themselves torn between their desire for children with the accompanying responsibilities and the feelings of guilt that they are not meeting their professional expectations. Both male and female physicians may find themselves acceding to the calls of patients (with the sanction of colleagues and society) while the spouse and children become resentful. During this stage the physician and spouse may try to escape stress by turning to alcohol or drugs.

This stage, however, holds great potential for fulfillment. The earlier dreams of practicing medicine can be realized if only the physician can here set realistic priorities and determine what is truly important in life.

4. **Career Plateau:** The physician may become disillusioned with his life during this stage as he realizes that "this may be all there is" and concludes that it isn't enough. Positive steps to change the focus of a medical career may result in a traumatic uprooting of spouse and children. Despair with life the way it is may lead to anti-social behavior.

The communication skills developed earlier in the family relationships can be used effectively here as each member can be involved in continuing self-growth. Honest expression of feelings is especially important. If someone assumes the "martyr role," family dysfunction may result.

5. **Retirement:** Physicians all know that they will age along with their patients. How they plan for this stage will determine the quality of their later years. If family relationships and outside interests are nurtured, the retirement stage will not cause undue stress. However, if the physician "lives for his patients" and achieves self-actualization only through his practice of medicine, then the transition may be difficult with an increased risk of substance abuse, personality change, or suicide.

It is important for physicians and their families to recognize these five stages, as well as the opportunities and potential problems of each so that they may have realistic expectations of their medical family life.

Each stage has potential for growth and success, but it also holds the seeds of disaster.

Support networks within the profession are at present embryonic. Whenever we speak to a group of physicians and spouses my husband and I are asked, "After you leave, what do we do to continue what you have started?" It is difficult for physicians to discuss their personal lives with anyone, but somehow it is easier to do so with colleagues who are familiar with the same fears and hopes. Medical families should not have to solve their human problems alone — they give generously of themselves to others outside their profession. Why not to each other?

By acknowledging that medical families do have some unique challenges, we must now take the next step and find ways to support each other within our medical community. It starts with the first year of medical school — the network from future physicians and their families to the practicing physicians and their families. Each of us in North Carolina has an opportunity and obligation to reach out to another medical family. In this way we will not only be helping ourselves but also ensuring top quality care for patients: after all, how can an impaired physician or a physician with a disturbed family provide optimum care for his patients?

Anita D. Taylor

(Mrs. Taylor is a medical sociologist and a Certified Medical Assistant who teaches a course on medical ethics and human values at the Bowman Gray School of Medicine of Wake Forest University.

sity. She and her physician husband speak on the topic of medical marriage and have co-authored *Couples: The Art of Staying Together* (Acropolis Books, 1978). She has been a member of the American Medical Association Auxiliary since 1964 and is currently serving on the board of directors of the Forsyth County Medical Auxiliary.)

News Notes from the—
**EAST CAROLINA UNIVERSITY
SCHOOL OF MEDICINE**

Family medicine is the choice of 46% of the students in the Class of 1981, according to residency applications made by the 28 future physicians. Thirteen members of ECU's charter class have made applications in family medicine, five in medicine, four in obstetrics and gynecology, and two each in pediatrics, psychiatry and surgery. ECU will graduate its first class of students this May.

* * *

Dr. Billy E. Jones, a Greenville dermatologist for 13 years, has been appointed professor of medicine and chief of dermatology.

Jones had been associate clinical professor of medicine at ECU since 1977. In his new position he will be

**HOW MUCH OF YOUR TIME
CAN YOU CALL YOUR OWN?**



Modern medical practice has become a complex and time-consuming operation. Too often the physician sacrifices leisure time and family responsibilities to his professional duties.

If you're earning more but enjoying it less: if you've considered an alternative to the rigors of your practice, Air Force medicine may be the answer.

Our health care system is among the finest in the world. Our physicians serve in modern, well-equipped hospitals and clinics with competent and well-trained staffs. Air Force personnel handle paperwork and administrative tasks, allowing maximum time for patient care by each physician.

To attract quality physicians, the Air Force has assembled an excellent package of compensation and entitlements. These include 30 days of paid vacation each year, an opportunity to seek specialization at Air Force expense, and full medical and dental care without loss of pay during treatment.

Contact USAF Health Professions Recruiter, 1100 Navaho Drive, Suite GL-1, Raleigh, N.C. 27604. Call Collect (919) 755-4134.



AIR FORCE. HEALTH CARE AT ITS BEST.

370E037

responsible for curriculum development and instruction in dermatology.

Jones received his undergraduate degree from The Citadel and his M.D. from Duke University Medical Center. He did an internship at William Beaumont Army Hospital, El Paso, Texas, and completed residency training in dermatology at Letterman General Hospital and the University of California, San Francisco.

During his military service he was chief of dermatology at Fort Gordon, Ga. He also held a faculty appointment at the Medical College of Georgia, Augusta.

* * *

A neuroanatomy atlas illustrated by a biomedical photographer at the School of Medicine is scheduled for publication this spring by University Park Press, Baltimore, Md.

Carroll S. Punte, a member of the staff at the Audio-Visual Services Center, was responsible for the production of the 40 black-and-white photographs and corresponding color slides that illustrate the *Atlas of the Human Brain Stem and Spinal Cord*.

The 100-page photographic reference was written by Dr. James D. Fix, a former faculty member in the ECU anatomy department. Fix currently is chairman of anatomy at the Marshall University School of Medicine, Huntington, W. Va.

The atlas provides beginning neuroanatomy students with a three-dimensional concept of major motor and sensory systems. Punte made the photographs from original histological sections to supple-

ment traditional methods of instruction, review and testing in neuroanatomy.

* * *

Dr. Leonard S. English, assistant professor of microbiology, has received a \$41,038 grant from the National Institutes of Health to support a second year of research on "Regulation of the Immune Response in Vivo."

* * *

Dr. Hubert W. Burden, professor of anatomy, published "The Effect of Abdominal Vagotomy of the Pregnant Rat on Pituitary Content of Prolactin and Gonadotropins" in the November issue of *IRCS Medical Science*. Co-authors of the article are Dr. Irwin E. Lawrence, professor of anatomy, and Dr. Charles Hodson, assistant professor of obstetrics and gynecology.

Dr. Edwin W. Monroe, associate dean for external affairs, has been appointed to the President's National Advisory Council on Environmental Health Sciences.

* * *

Dr. Alvin Volkman, professor of pathology and laboratory medicine, was a guest lecturer in December at Saint Jude's Children's Research Hospital, Memphis, Tenn. He presented "Macrophage Function in Monocyte Deprived Mice."

* * *

Dr. Robert E. Thurber, chairman of physiology, presented "Health Promotion at the Local Level" at the N.C. Health Convocation held in Raleigh in December.

* * *

The gastroenterology section of the Department of Medicine hosted a meeting of the N.C. Chapter of the American College of Physicians Dec. 6 in Greenville.

* * *

Dr. Greg Iams, assistant professor of physiology, and Steve Blumenthal, research assistant, presented "Adenylate Cyclase in the Aging Hypothyroid Spontaneously Hypertensive Rat" at the first annual meeting of the Southeastern Pharmacological Society in Augusta, Ga., Nov. 20-22.

* * *

Dr. Walter J. Pories, chairman of surgery, participated in a discussion of "The Delinquent Resident" at the Southern Surgeon's Association meeting in Palm Beach, Fla., Dec. 8-10.

* * *

Dr. Donald R. Hoffman, associate professor of pathology, and Jeff Miller, second-year medical student, published "Hymenoptera Venom Allergy: A Geographic Study" in the November issue of the *Annals of Allergy*.



B.B. Plyler, Jr., C.L.U.



Brent Plyler, C.L.U.

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Dr. James L. Mathis, professor of psychiatry, presented "Stress" and "The Management of Stress" at a meeting of the Mid-Atlantic College Health Association Nov. 21 in Williamsburg, Va.

* * *

Dr. E. Jackson Allison, chairman of emergency medicine, presented "Emergency Management of Flail Chest" at the South Carolina EMS symposium Dec. 2 in Myrtle Beach.

* * *

Drs. Spencer Raab and Thomas O'Brien, both professors of medicine, recently participated in a physician exchange program with Toho University, Tokyo, Japan. During their 10-day visit Raab lectured on granulocyte kinetics and O'Brien discussed inflammatory bowel disease. ECU is sponsoring Toho university professors Tetsuyuki Hirahata and Junjiro Kobayashi in a one-year exchange program here.

* * *

The Department of Obstetrics and Gynecology has received an \$18,888 grant from the National Foundation of the March of Dimes. The grant will support the addition of a perinatal social worker to assist patients receiving care in the medical school's high-risk obstetrical and perinatal clinics.

Charles Sweat, director of the ambulatory service clinics, has been named to the American College of Hospital Administrator's Committee on the Silver Medal Award for notable and outstanding contributions to the health field.

* * *

Dr. Richard Merrill, associate professor of medicine, is co-author of "Scanning Electron Microscopic Observations on Glomeruli," an article appearing in the *Archives of Pathology and Laboratory Medicine*.

* * *

Dr. Irvin Blose, professor of psychiatry, presented "Recent Advances in Alcoholism" at the UNC-CH graduate school of public health Nov. 26. Blose also presented "The Status of Medical Teaching in Alcoholism" at a meeting of the Raleigh chapter of the National Council of Alcoholism.

* * *

Dr. Kathleen W. Rao has been appointed director of the cytogenetics laboratory and instructor of pediatrics.

Rao will coordinate the development of the new lab in the medical school's Developmental Evaluation Clinic. The lab will assist physicians in diagnosing children with birth defects and mental retardation.

TEGA-VERT CAPSULES

VERTIGO • MOTION SICKNESS • NAUSEA • MOOD ELEVATION

Each capsule contains:

Pentylentetrazol (Metrazol)..... 50 mg.
Niacin (Nicotinic Acid)..... 50 mg.
Dimenhydrinate (Dramamine)..... 25 mg.

ADMINISTRATION & DOSAGE: One or two capsules three or four times daily before or after meals.

INDICATIONS: TEGA-VERT is indicated in the symptomatic management of idiopathic vertigo, as well as that associated with Meniere's Syndrome. Arterial Hypertension, Labyrinthitis, Fenestration Procedures, Radiation Sickness and Tonic Effect. TEGA-VERT has also been of value in patients with clinical symptoms of senility and functional cerebral impairment as well as symptomatic nausea.

CONTRAINDICATIONS: TEGA-VERT should not be used in patients with known history of sensitivity to any of its ingredients. Because of its vasodilating effects, niacin is contraindicated in the presence of arterial hypotension.

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WE FEATURE ONE OF THE MOST COMPLETE LINE OF INJECTIBLES IN THE SOUTHEAST AT THE VERY BEST PRICE, CONSISTENT WITH QUALITY

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is the presenting
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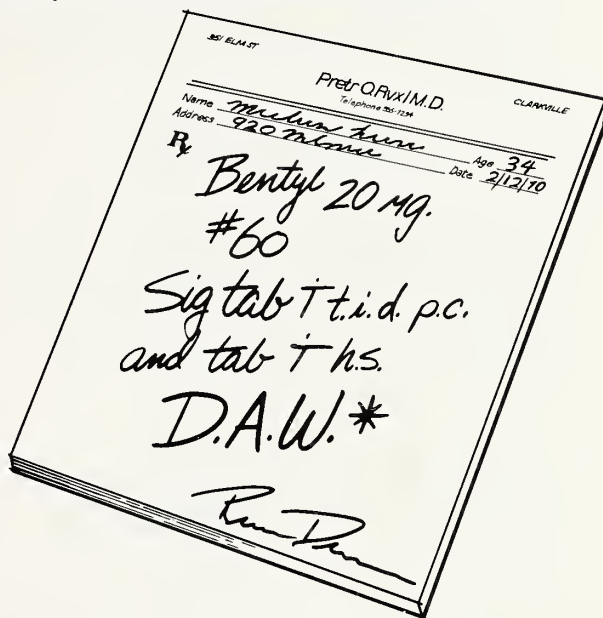


...in the functional bowel/irritable bowel syndrome[†]

be sure to specify

Bentyl[®]
(dicyclomine hydrochloride USP)

10 mg. capsules, 20 mg. tablets,
10 mg./5 ml. syrup, 10 mg./ml. injectable



**D.A.W.-Dispense as written*

because:

Bentyl passes these tests for product integrity.

- ⊗ The Bentyl molecule is a product of original Merrell research.
- ⊗ At Merrell, Bentyl must go through 140 checkpoints/tests from its synthesis through the packaging of the final product.
- ⊗ Bentyl bioavailability of tablets, capsules, syrup and injectable.
- ⊗ The bioequivalence of the oral dosage forms permits a choice of tablets, capsules, or syrup that satisfies patient's dosage preferences.
- ⊗ Pharmacologic effect in the distal colon compared to placebo^{††} shows how Bentyl affects abnormal motor activity in the irritable colon patient.[†]

[†] This drug has been classified "probably" effective for this indication.

Merrell

^{††} In the experiments that showed significant pharmacologic effect, the dose of Bentyl used was 50 mg. I.M., which is higher than that permitted in the labeling. This dose was deemed justified since the recommended daily dose of injectable Bentyl is 20 mg. (2 ml.) every 4 to 6 hours. Thus, in 8 hours, a patient could receive a total of 60 mg. I.M. and at that time, as a result of the sustained plasma levels from the 20 mg. injections at 0 and 4 hours, might show an even higher plasma level that occurs after a single 50 mg. I.M. dose. Presumably, the same pharmacologic effect would follow. These observations do not constitute evidence of efficacy.

Bentyl®

(dicyclomine hydrochloride USP)
Capsules, Tablets, Syrup, Injection
AVAILABLE ONLY ON PRESCRIPTION
Brief Summary

INDICATIONS

Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the following indications as "probably" effective:

For the treatment of functional bowel/irritable bowel syndrome (irritable colon, spastic colon, mucous colitis) and acute enterocolitis.

THESE FUNCTIONAL DISORDERS ARE OFTEN RELIEVED BY VARYING COMBINATIONS OF SEDATIVE, REASSURANCE, PHYSICIAN INTEREST, AMELIORATION OF ENVIRONMENTAL FACTORS.

For use in the treatment of infant colic (syrup).

Final classification of the less-than-effective indications requires further investigation.

CONTRAINDICATIONS: Obstructive uropathy (for example, bladder neck obstruction due to prostatic hypertrophy); obstructive disease of the gastrointestinal tract (as in achalasia, pyloroduodenal stenosis); paralytic ileus, intestinal atony of the elderly or debilitated patient, unstable cardiovascular status in acute hemorrhage; severe ulcerative colitis, toxic megacolon complicating ulcerative colitis; myasthenia gravis.

WARNINGS: In the presence of a high environmental temperature, heat prostration can occur with drug use (fever and heat stroke due to decreased sweating). Diarrhea may be an early symptom of incomplete intestinal obstruction, especially in patients with ileostomy or colostomy. In this instance treatment with this drug would be inappropriate and possibly harmful. Bentyl may produce drowsiness or blurred vision. In this event, the patient should be warned not to engage in activities requiring mental alertness such as operating a motor vehicle or other machinery or perform hazardous work while taking this drug. There are rare reports of infants, 6 weeks of age and under, administered dicyclomine hydrochloride syrup, who have evidenced respiratory symptoms (breathing difficulty, shortness of breath, breathlessness, respiratory collapse, apnea), as well as seizures, syncope, asphyxia, pulse rate fluctuations, muscular hypotonia, and coma. The above symptoms have occurred within minutes of ingestion and lasted 20 to 30 minutes. The timing and nature of the reactions suggest that they were a consequence of local irritation and/or aspiration rather than a direct pharmacologic effect. No known deaths or permanent adverse effects have been reported. Bentyl syrup should be used with caution in this age group.

PRECAUTIONS: Although studies have failed to demonstrate adverse effects of dicyclomine hydrochloride in glaucoma or in patients with prostatic hypertrophy, it should be prescribed with caution in patients known to have or suspected of having glaucoma or prostatic hypertrophy.

Use with caution in patients with:

Autonomic neuropathy. Hepatic or renal disease. Ulcerative colitis. Large doses may suppress intestinal motility to the point of producing a paralytic ileus and the use of this drug may precipitate or aggravate the serious complication of toxic megacolon.

Hyperthyroidism, coronary heart disease, congestive heart failure, cardiac arrhythmias, and hypertension.

Hiatal hernia associated with reflux esophagitis since anticholinergic drugs may aggravate this condition.

Do not rely on the use of the drug in the presence of complication of biliary tract disease. Investigate any tachycardia before giving anticholinergic (atropine-like) drugs since they may increase the heart rate. With overdosage, a curare-like action may occur.

ADVERSE REACTIONS: Anticholinergics/antispasmodics produce certain effects which may be physiologic or toxic depending upon the individual patient's response. The physician must delineate these. Adverse reactions may include xerostomia; urinary hesitancy and retention; blurred vision and tachycardia; palpitations; mydriasis; cycloplegia; increased ocular tension; loss of taste; headache; nervousness; drowsiness; weakness; dizziness; insomnia; nausea; vomiting; impotence; suppression of lactation; constipation, bloated feeling; severe allergic reaction or drug idiosyncrasies including anaphylaxis; urticaria and other dermal manifestations; some degree of mental confusion and/or excitement, especially in elderly persons; and decreased sweating. With the injectable form there may be a temporary sensation of light-headedness and occasionally local irritation.

DOSAGE AND ADMINISTRATION: Dosage must be adjusted to individual patient's needs.

Usual Dosage

Bentyl 10 mg capsule and syrup: **Adults:** 1 or 2 capsules or teaspoonfuls syrup three or four times daily. **Children:** 1 capsule or teaspoonful syrup three or four times daily. **Infants:** ½ teaspoonful syrup three or four times daily. (Dilute with equal volume of water.)

Bentyl 20 mg: **Adults:** 1 tablet three or four times daily

Bentyl Injection: **Adults:** 2 ml. (20 mg.) every four to six hours intramuscularly only.

NOT FOR INTRAVENOUS USE.

MANAGEMENT OF OVERDOSE: The signs and symptoms of overdose are headache, nausea, vomiting, blurred vision, dilated pupils, hot, dry skin, dizziness, dryness of the mouth, difficulty in swallowing, CNS stimulation. Treatment should consist of gastric lavage, emetics, and activated charcoal. Barbiturates may be used either orally or intramuscularly for sedation but they should not be used if Bentyl with Phenobarbital has been ingested. If indicated, parenteral cholinergic agents such as Urecholine® (bethanecol chloride USP) should be used.

Product Information as of July, 1980

Injectable dosage forms manufactured by
CONNAUGHT LABORATORIES, INC.
Switzerland, Pennsylvania 18370 or
W.L. PHARMACAL COMPANY
St. Louis, Illinois 62525 for
W.L. PHARMACAL COMPANY
Merrell International Laboratories
P.O. Box 12000, Kenilworth, New Jersey 07033
Merrell International Laboratories
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0-6546 (Y115C) MNQ 442

Rao recently completed doctoral studies at the University of North Carolina-Chapel Hill, where she was a research assistant and former supervisor of the cytogenetics and cell culture laboratory in the pediatrics department.

She received her undergraduate degree from the College of William and Mary, Williamsburg, Va.

* * *

Schering Corporation, a pharmaceutical company based in Bloomfield, N.J., has donated \$2,000 in equipment and supplies to supplement patient care and teaching programs at the East Carolina University School of Medicine and Pitt County Memorial Hospital. The award provides a programmable calculator and printer and audiovisual materials.

* * *

More than 90 babies — along with their parents, brothers and sisters — attended the first reunion of former patients in the neonatal intensive care unit at Pitt County Memorial Hospital. The December party featured Santa Claus for the children and a chance to renew friendships for the approximately 400 who attended. The unit, which is operated by the medical school's Department of Pediatrics and supported with state perinatal funds, has provided care for more than 600 babies since it opened in 1978.

News Notes from the

UNIVERSITY OF NORTH CAROLINA- CHAPEL HILL SCHOOL OF MEDICINE AND NORTH CAROLINA MEMORIAL HOSPITAL

A new service being developed by the division of rehabilitation counseling in the School of Medicine is aimed at improving the employment outlook for workers with arthritis, particularly those in the state's textile mills.

Arthritis is the leading cause of industrial absenteeism in this country, accounting for an estimated 27 million lost work days a year and \$5 billion in lost wages.

The Industrial Rheumatology Rehabilitation Service is being set up in cooperation with the North Carolina Chapter of the Arthritis Foundation, the State Division of Vocational Rehabilitation Services and several major industries. The federal Rehabilitation Service Administration is providing \$450,000 to fund the service for the first three years.

"This is designed to be an innovative, model program for identifying and solving some of the problems faced by workers with arthritis. As far as we know, this is the first direct link between industry, rehabilitation services and an academic medical center for the

purpose of dealing with a specific health problem that has such a profound impact on industrial workers and industry itself," said Dr. Kenneth Mitchell, associate professor and director of the division of rehabilitation counseling.

* * *

Dr. Harold R. Roberts, professor of medicine and pathology, has been appointed to the National Heart, Lung and Blood Advisory Council of the National Heart, Lung and Blood Institute.

As a council member, Roberts will take part in the evaluation of NHLBI programs concerned with cardiovascular, lung and blood diseases and will make recommendations to director of NHLBI and the National Institutes of Health concerning directions, goals and priorities of these programs. His term runs through 1984.

* * *

Dr. William E. Easterling, medical school vice dean and hospital chief of staff, and Dr. John T. Sessions, professor of medicine, recently were recognized for distinguished service by the American Cancer Society. They were cited for their strong leadership and years of support of the American Cancer Society and its programs. The physicians received two of the three

national divisional service awards presented in North Carolina.

* * *

Dr. William J. Anderson, resident in orthopedics, presented a paper titled "Fractures of the Diaphysis of the Radius and Ulna in Adults: An End Result Study" to the combined meeting of the North and South Carolina Orthopedic Associations Sept. 13 at Kiawah Island, S.C. Dr. Frank C. Wilson, professor and division chief of surgery, was co-author of the paper.

* * *

Charles R. Hackenbrock, professor and chairman of anatomy, and Dr. John J. Lemasters, assistant professor of anatomy, presented papers at the First European Bioenergetics Conference June 29 — July 5 in Urbino, Italy. Lemasters also presented a paper on "Dynamic Measurement of AIP with Firefly Luciferase Bioluminescence" at the Second Internal Symposium on Bioluminescence and Chemiluminescence Aug. 26-28 in San Diego.

* * *

Jean M. Lauder, associate professor of anatomy, presented invited lectures at Mt. Sinai School of Medicine, Department of Anatomy, Sept. 10 in New

HOLLY HILL HOSPITAL—A HOSPITAL COMMUNITY

- A private, psychiatric hospital serving adults and adolescents
- An open medical staff with 21 Psychiatrists
- A consulting medical staff representing all specialties
- Short, intermediate, and long-term treatment programs tailored to each patient's needs
- Psychiatric consultation and hospitalization on a 24-hour basis



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Tail of whipworm
(*Trichuris trichiura*)

Vermox[®]: the only anthelmintic highly effective against whipworm.

| | Cure Rate | Egg Reduction |
|------------------------|---------------|---------------|
| VERMOX [®] | 68%* | 93%** |
| Mintezol ¹ | 35%† | 45%†† |
| Antiminth ² | Not Indicated | |
| Povan ³ | Not Indicated | |

Also highly effective against roundworm and hookworm

Since whipworm, roundworm and hookworm are all soil-borne helminths, mixed infections are not uncommon. Only one anthelmintic exhibits high efficacy rates for all three nematodes: whipworm—68%; roundworm—98%; hookworm—96%. That agent is VERMOX[®].

Please see following page for Summary of Prescribing Information.

Broad-spectrum coverage in mixed helminthic infections

Vermox[®] TABLETS
(mebendazole)



JANSSEN PHARMACEUTICA INC.
New Brunswick, N.J. 08903

Committed to research...
because so much remains to be done.

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JPI-023



Broad-spectrum coverage in mixed helminthic infections

VERMOX[®] TABLETS **(mebendazole)**

Contraindications VERMOX is contraindicated in pregnant women (see: Pregnancy Precautions) and in persons who have shown hypersensitivity to the drug.

Precautions **PREGNANCY:** VERMOX has shown embryotoxic and teratogenic activity in pregnant rats at single oral doses as low as 10 mg/kg. Since VERMOX may have a risk of producing fetal damage if administered during pregnancy, it is contraindicated in pregnant women.

PEDIATRIC USE: The drug has not been extensively studied in children under two years; therefore, in the treatment of children under two years the relative benefit/risk should be considered.

Adverse Reactions Transient symptoms of abdominal pain and diarrhea have occurred in cases of massive infection and expulsion of worms.

Dosage and Administration The same dosage schedule applies to children and adults. The tablet may be chewed, swallowed or crushed and mixed with food. For the control of pinworm (enterobiasis), a single tablet is administered orally, one time.

For the control of roundworm (ascariasis), whipworm (trichuriasis), and hookworm infection, one tablet of VERMOX is administered, orally, morning and evening, on three consecutive days.

If the patient is not cured three weeks after treatment, a second course of treatment is advised. No special procedures, such as fasting or purging, are required.

* Mean cure rate of VERMOX[®] in treating whipworm; cure rate range of 61-75%. Data on file at Janssen Pharmaceutica Inc.

** Mean egg reduction of VERMOX[®] in treating whipworm; egg reduction range of 70-99%. Data on file at Janssen Pharmaceutica Inc.

† Rollo, I.M.: Drugs used in the chemotherapy of helminthiasis, in Goodman, L.S.; and Gilman, A. (eds.): *The Pharmacological Basis of Therapeutics*, ed. 5. New York, Macmillan, 1975, p. 1034.

†† Miller, M.J.; Krupp, I.M.; Little, M.D.; Santos, C.: Mebendazole an effective anthelmintic for trichuriasis and enterobiasis. *JAMA* 230 (10): 1412-1414, Dec. 9, 1974.

1. Registered trademark of Merck Sharp and Dohme.
2. Registered trademark of Roerig.
3. Registered trademark of Parke-Davis.



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because so much remains to be done.*

York and at the N.C. State University Department of Zoology Sept. 18 in Raleigh.

* * *

Dr. Walter B. Greene, assistant professor of surgery, was a guest speaker at a symposium on "Hemophilia and Related Disorders" sponsored by the Hemophilia Program of the State of Missouri, Oct. 3-4. Greene spoke on "Musculoskeletal Management of Hemophilia."

* * *

Dr. William H. Bowers, associate professor of surgery, was elected president of the Southeastern Hand Club at its annual meeting Sept. 19 in Point Clear, Alabama. This club is composed of orthopedists in the southeastern United States whose primary practice is hand surgery.

* * *

Dr. Benson R. Wilcox, professor and division chairman of surgery, and Dr. Gordon F. Murray, associate professor of surgery, attended the annual sessions of the American College of Surgeons Oct. 22-26 in Atlanta. Wilcox served as moderator for "Newer Diagnostic Techniques in Thoracic Surgery" for the ACS postgraduate course in cardiothoracic surgery. Murray presented a scientific film, "Excision of Right Ventricular Myxoma," prepared by Murray, Wilcox, and Ormond C. Mendes.

* * *

Dr. Frank C. Wilson, professor and division chief of surgery, presented a talk on "Preclinical Curriculum Development in Orthopaedic Surgery" at the American College of Surgeons Oct. 23 in Atlanta. Wilson also was moderator of a panel on "Competitive Marketing and Medical Services and its Potential Effect on Medical Education" at the American Association of Medical Colleges Oct. 26 in Washington, D.C.

* * *

Dr. Gordon Burnett, associate professor of psychiatry and director of Psychopharmacology Clinic, authored "Neuropsychiatric syndrome in hemodialysis: a review" published in *Dialysis and Transplantation*, Vol 9, October 1980.

* * *

Dr. Kenneth Sugioka, chairman and professor of anesthesiology, presented a paper at the 7th World Congress of Anesthesiologists on "Continuous Measurement of PaCO₂, pH, Bicarbonate in Humans Undergoing Anesthesia" Sept. 13-20 in Hamburg, Germany.

* * *

Dr. Joseph S. Pagano, director of the Cancer Research Center and professor of medicine, bacteriology and immunology, chaired a session on Glycoproteins and Immunology at the 5th Cold Spring Harbor meet-

ing on herpes viruses at Cold Spring Harbor Laboratory Aug. 26-31 in Cold Spring Harbor, N.Y. Members of the Cancer Research Center who gave presentations at the meeting included: James E. Shaw, research assistant professor of bacteriology and immunology, on "Polypeptides Associated with the EBV DNA of Superinfected Raji Cells"; Lindsey M. Hutt-Fletcher, research assistant professor of bacteriology and immunology, on "EBV Receptor — Partial Purification and Relationship to the C3d Receptor"; John Baskar, research associate, on "Persistent Infection of Murine Cytomegalovirus in Murine Carcinoma F9 Cells"; Robert J. Feighny, postdoctoral fellow, on "EBV Early Polypeptides — Identification, Synthesis, Glycosylation, and Phosphorylation"; Eng-Chun Mar, research associate, on "Virus-Specific Structural Proteins, DNA-Binding Proteins and Phosphorylated Proteins in Human Cytomegalovirus Virions and Virus-Infected WI-38 Cells"; John G. Nedrud, research associate, on "Attenuation of Murine Cytomegalovirus (MCMV) in vitro and in vivo"; Brenda Colby, bacteriology and immunology, on "Phosphorylation of Acyclovir in EBV-Infected Lymphoblastoid Cell Lines" and "Characterization of P3HR-1 Cells Following Prolonged Exposure to Acyclovir"; Alok K. Datta, research associate, on "Mode of Inhibition of EBV DNA Polymerase by Acyclovir Triphosphate"; Istvan Boldogh, postdoctoral fellow, on "Transformation of Human Embryonic Lung Cells by Restriction Endonuclease (Xba) Fragmented DNA of Cytomegalovirus"; and Berch Henry II, postdoctoral fellow, on "An EBV-Associated DNase Activity Appearing in Superinfected Raji Cells."

Dr. Pagano also attended the annual meeting of the Infectious Diseases Society of America Sept. 25.

* * *

Edward P. Chaney, associate professor of radiology, traveled to France recently to present a paper at the International Symposium on Biomedical Dosimetry Physical Aspects, Instrumentation, Calibration. He also was visiting professor at Centre Georges-Francois Leclerc in Dijon.

* * *

Dr. John A. Ewing, professor of psychiatry and director of the center for alcohol studies, presented a paper on "Alcohol Research in the 1980s: Implications for Prevention and Treatment" at ALC 80, An International Conference on Alcoholism at the University of Bath Sept. 20-24 in Avon, England; on "Biomedical Predisposing and Protecting Factors in Alcohol Use and Abuse" at the International Symposium on Prevention and Research on Alcoholism Sept. 25-26 in The Hague, The Netherlands; on "Explaining Alcoholism: What Does Research Tell Us and Where Does It Need to Go?" Oct. 4-6 at the 15th annual conference of the Japanese Medical Society of Alcohol Studies Oct. 4-6 in Kyoto, Japan.

News Notes from the—

BOWMAN GRAY SCHOOL OF MEDICINE WAKE FOREST UNIVERSITY

Four new assistant professors have been appointed to the fulltime faculty of the Bowman Gray School of Medicine.

They are Dr. Donald R. Koritnik, comparative medicine; Dr. Thomas J. Poulton, anesthesia (intensive care unit); Dr. Peter W. Robie, medicine (endocrinology and general medicine); and Dr. Charles E. Welander, obstetrics and gynecology.

Other appointments went to Dr. David W. Griffith Jr., research instructor in neurology (neurosonology); Gail S. Marion, instructor in family medicine and allied health (physician assistant program); and Dr. Mary J. Ruebush, research instructor in microbiology and immunology.

Appointed to the part-time faculty were Dr. Carole L. Browne, associate in anatomy, and Dr. D. E. Ward Jr., lecturer in community medicine.

* * *

Preliminary evidence from a research project at the Bowman Gray School of Medicine indicates that a diet high in alcohol content can delay the onset of puberty in young female laboratory animals.

That finding was revealed in the early stages of research being conducted by Dr. Walter J. Bo, professor of anatomy, and Dr. Wayne A. Krueger, associate professor of anatomy.

Female rats are being used as models to study the effects of alcohol on the reproductive system.

Not only did the researchers find that a diet high in alcohol content delays the onset of puberty, but its consumption also results in abnormal estrous cycles.

According to Dr. Bo, much more research will be needed before alcohol's influence on the developing female reproductive system can be confirmed.

But, he adds, the preliminary findings are of more than passing interest at a time when news stories report heavy drinking among pre-adolescent youngsters.

Female rats the same age as those with delayed puberty and abnormal estrous cycles but which were fed a diet low in alcohol content showed no abnormalities in their reproductive systems.

* * *

E. Lawrence Davis III, Winston-Salem attorney, has been elected chairman of the Board of Trustees of North Carolina Baptist Hospital, Bowman Gray's principal teaching hospital.

Davis succeeds T. Clyde Collins of Greensboro. Davis's father and grandfather previously held the chairmanship of the board.

An anti-cancer treatment which Bowman Gray researchers were instrumental in developing has been shown to be effective against Hodgkin's disease while producing some unexpected benefits.

Not only is the treatment, called CVPP, effective in getting patients into remission and keeping them in remission, it also has a previously unsuspected role to play in helping patients who were in remission and who have relapsed back into active Hodgkin's disease.

Dr. Charles L. Spurr, director of Bowman Gray's Cancer Research Center, and Dr. M. Robert Cooper, professor of medicine, worked with Cancer and Acute Leukemia Group B (CALGB) in 1972 to propose CVPP. CALGB is an international organization consisting of 33 research institutions which cooperate in studies aimed at improving the care of cancer patients.

CVPP's initials stand for the four drugs it involves — CCNU, vinblastine, prednisone and procarbazine.

CVPP has proven to be less toxic than the standard treatment for Hodgkin's, which is known as MOPP. CVPP also has produced more patients who enter remission. And those remissions last equally as long as those produced by MOPP.

Patients with advanced Hodgkin's who were in remission and who suffer a relapse have responded better to CVPP than MOPP in efforts to put them back in remission.

CVPP is being combined with radiation in other research projects to see if that combination treatment is more effective than radiation alone in the treatment of patients with the earlier stages of Hodgkin's disease.

Dr. William H. Boyce, professor of urology, has been appointed to the Residency Review Committee of the American Board of Urology for 1980-83.

* * *

Dr. Duane C. Budd, lecturer in community medicine, has been appointed to a four-year term on the Board of Medical Examiners for the state of Tennessee. He also has been elected president of the Tennessee Academy of Family Physicians.

* * *

Dr. Claire L. Jurkowski, instructor in medicine, has been appointed to the editorial board of the University of Nebraska's "Mr. TIB" (Computerized Test Item Bank) program for physician assistants.

* * *

Dr. Tad W. Lowdermilk, clinical instructor in surgery (emergency medicine), has been elected vice president of the North Carolina Chapter of the American College of Emergency Physicians.

* * *

Dr. George Podgorny, clinical associate professor of surgery (emergency medicine), has been elected vice chairman of the Emergency Management Advisory Council of Winston-Salem/Forsyth County.

* * *

Dr. Robert B. Taylor, associate professor of family medicine, has been elected to the editorial board of the "Family Practice Review Journal."

Aneurysm

An aneurysm is the dilatation of an artery full of spiritous blood. It sometimes occurs externally, as in the hands and feet, or about the throat and chest; differing in this respect from a varix, that it is large, swollen, and has often an annoying pulsation. On the tumour being pressed upon, the matter contained within it disappears. It also sometimes occurs in the internal arteries, especially in the chest, or about the spleen and mesentery, where a violent throbbing is frequently observable.

It is scarcely credible that some imagine that in these affections the vein or artery is ruptured or opened; for if the blood had escaped from the vein or artery, it would soon putrefy, and give rise to a tumor of a different kind. — Jean Fernel, 1581.

Month in Washington

The Reagan Administration formally took over the reins of office with high hopes for easing the nation's problems at home and abroad but with no illusions that the job will be easy. The new Congress, more conservative in number and outlook, met for the first time with its leaders and pledged their best efforts to help carry out the President's legislative programs.

One of the first orders of business was confirmation of Reagan's cabinet appointments, including that of former Sen. Richard Schweiker (R., Pa.) to be Secretary of the Health and Human Services (HHS) Department.

Congress faces a heavy agenda on health. Whether national health insurance will be seriously considered depends whether the Reagan Administration chooses to push some plan such as "pro-competition" or catastrophic, both of which received favorable comment during the campaign.

Administration plans to deregulate aspects of health, to make economies, and possibly to eliminate some programs appear to be in the works.

Many major health programs are due to expire in the next two years and must be re-authorized by Congress. This will afford the Administration opportunity to request major changes. The list of programs requiring such action includes Health Services Research, Statistics and Technology; Grants to States for Health Services; Primary Health Centers; National Health Service Corps; Home Health Services; Primary Care Research and Demonstration Projects; Medical Libraries; National Research Institutes; Health Research and Teaching Facilities and Training of Professional Health Personnel; Student Assistance; Capitation Grants to Schools of Medicine, etc.; Nurse Training; Family Planning; Genetic Diseases; Sudden Infant Death Syndrome; Hemophilia; Health Maintenance Organizations; Health Planning; Health Resources Development; Health Information and Health Promotion; President's Commission on Ethics and Research; Developmental Disabilities Protection and Alcohol and Drug Abuse Programs.

The last Congress failed to act on important bills that carry over into the new session. The HHS Department appropriations measure and aid-for-medical-education are the two major bills in this category. The Child Health Assurance bill, a priority of the Carter Administration, may be put on the shelf in the new Congress, though it still has substantial support. The Hospital Cost Containment bill is beyond salvage.

One medical education bill may face careful scrutiny. Both House and Senate last year approved

measures reducing capitation aid for medical schools, but they could not agree on specifics.

Health Maintenance Organizations are worried that their allotments from the government will be decreased. The National Health Service Corps comes under a HHS Secretary in Schweiker who has been very critical of its growth. The Health Planning bill can expect formidable conservative opposition.

Two major Senate health committees have several new members: the Republicans hold a two-seat edge in both groups — Senate Finance and Senate Labor and Human Resources.

Sen. Edward Kennedy (D., Mass.) chose to become the ranking minority member of the Human Resources Committee rather than of the Senate Judiciary Committee, so that he will be able to have a forum from which to lead the opposition on health affairs. Sen. Harrison Williams (D., N.J.), former chairman of the Human Resources Committee, chose to be the top Democrat on another committee.

Here is the membership of the two committees that guide most health legislation in the Senate:

SENATE FINANCE

Republicans

Robert Dole (Kans.)
Bob Packwood (Ore.)
William Roth (Dela.)
John Danforth (Mo.)
John Chafee (R.I.)
John Heinz (Pa.)
Malcolm Wallop (Wyo.)
David Durenberger (Minn.)
William Armstrong (Colo.)
Steven Symms (Idaho)
Charles Grassley (Iowa)

Democrats

Russell Long (La.)
Harry Byrd (Va.)
Lloyd Bentsen (Texas)
Spark Matsunaga (Hawaii)
Daniel Moynihan (N.Y.)
Max Baucus (Mont.)
David Boren (Okla.)
Bill Bradley (N.J.)
George Mitchell (Maine)

SENATE LABOR AND HUMAN RESOURCES

Republicans

Orrin Hatch (Utah)
Robert Stafford (Vt.)
Gordon Humphrey (N.H.)
Dan Quayle (Ind.)
Don Nickles (Okla.)
Jeremiah Denton (Ala.)
Paula Hawkins (Fla.)
Lowell Weicker (Conn.)
John East (N.C.)

Democrats

Edward Kennedy (Mass.)
Harrison Williams (N.J.)
Jennings Randolph (W. Va.)
Claiborne Pell (R.I.)
Thomas Eagleton (Mo.)
Donald Riegle (Mich.)
Howard Metzenbaum (Ohio)

In the House, Rep. Dan Rostenkowski (D., Ill.) assumed chairmanship of the House Ways and Means Committee in the next Congress rather than become minority whip. His predecessor, Al Ullman (D., Ore.) was defeated for reelection.

OFFICIAL CALL HOUSE OF DELEGATES

pursuant to the Bylaws, Chapter V, Section 1:

HOUSE OF DELEGATES Meetings scheduled

Notice to: Delegates, Alternate Delegates, Officials of the North Carolina Medical Society, and Presidents and Secretaries of county medical societies.

Sessions of the HOUSE OF DELEGATES will convene in the Cardinal Ballroom, Pinehurst Hotel, Pinehurst, North Carolina, at the following times:

Thursday, May 7, 1981—10:00 a.m.—Opening Session
Saturday, May 9, 1981—2:00 p.m.—Second Session

A member of the CREDENTIALS COMMITTEE will be present at the Desk in the Hotel Lobby, Wednesday, May 6, 1981, 3:00 p.m. to 5 p.m., and Thursday, May 7, 1981, 8:30 a.m. to 10:00 a.m. to certify Delegates. Delegates are urged to bring their Credential Cards for presentation at the Registration Desk. Delegate Badges must be worn to be seated in the HOUSE OF DELEGATES.

REFERENCE COMMITTEE HEARINGS

Reference Committee hearings are scheduled to begin Thursday, May 7, 1981, at 2:00 p.m.

FRANK SOHMER, M.D., President
HENRY J. CARR, JR., M.D., Speaker
JACK HUGHES, M.D., Secretary
WILLIAM N. HILLIARD, Executive Director

The nomination of Schweiker to be Secretary of Health and Human Services (HHS) brings to the post a man widely versed in health affairs.

The 54-year-old Schweiker, who had announced last year that he would not seek re-election to the Senate, was the early front runner in speculation about the HHS post. Schweiker has been a close friend of Reagan's since he agreed to run for vice president if Reagan had been nominated four years ago. As ranking Republican on the Senate Labor and Human Resources Committee and on its Health subcommittee, he has an extensive knowledge of health legislation and of the Federal health structure.

Schweiker has expressed strong convictions about certain aspects of health, notably reservations about the extent of aid for medical education and for the National Health Service Corps.

In an interview last summer, Schweiker said a Reagan Administration will not endorse national health insurance or hospital cost containment and will move to "deregulate."

Schweiker is the author of a "pro-competition" plan that would eliminate most of the present tax deductions for private health insurance in an effort to encourage more cost-consciousness by business and consumers.

"You certainly will see a stop to the rush to federalize things," Schweiker said. But he cautioned that reversing the trend will take time. "There is so much momentum that it will take acts of Congress to repeal some programs," he said.

Federal involvement in health has not produced solutions to the nation's health problems, he said. "We are cautious and skeptical about involving the government further. In fact, we are looking at ways to decrease the government's role."

The senator said Health Maintenance Organizations should have their "full day in the sun," but "we should not build upon a system that favors one mode of competition over another."

As for medical schools, he said "we must give them protection if we step on the brakes. We can't leave the institutions high and dry."

Schweiker said the organizational structure at HHS is haphazard and suggested there would be moves to get the "health components working together."

* * *

The nominations of Schweiker to be HHS Secretary and of former Rep. Dave Stockman (R., Mich.) to be Director of the Office of Management and Budget brought to the cabinet two proponents of the so-called "pro-competition" health plan.

"Pro-competition" measures remove the current federal tax subsidy for purchase of private health insurance. People would receive tax-free rebates when they choose plans costing less than a set amount of premiums. High deductibles and co-insurance are encouraged. Most such bills before Congress include a catastrophic benefit as a requirement for private in-

surors. The intent is to foster competition among insurers to encourage innovation, improve efficiency and reduce waste. Much of the present regulatory apparatus, including Professional Standards Review Organizations (PSROs) and health planning, would be stripped away.

One of the major bills before the House was sponsored by Stockman and Rep. Richard Gephardt (D., Mo.). Sen. David Durenberger (R., Minn.), who may be chairman of the Senate Finance Subcommittee on Health, is a pro-competition backer.

* * *

The HHS Department foresees wide organizational shifts. The Reagan team has been considering proposals to bring education back into the agency, eliminating the new Education Department created by President Carter. Significant changes appear inevitable at the Health Care Financing Administration (HCFA) which runs Medicare and Medicaid. There is sentiment for creation of a cabinet-level Health Department. A stronger policy role is in the works for the Public Health Service (PHS).

Former HHS Secretary Patricia Harris proposed a new structure consisting of two HHS Under Secretaries, one for health, the other for Social Security. This would help solve problems created by the present awkward arrangement under which HCFA, controlling the two largest federal health programs, is separate from the Public Health Service. Harris proposes that HCFA report to the Health Under Secretary.

* * *

Many changes were made in the Medicare and Medicaid programs as a result of the passage of the Budget "Reconciliation" bill late in the Congressional "lame duck" session.

Most of the controversial provisions affecting the medical profession were dropped from the bill as were the sweeping changes in hospital reimbursement that had been approved by the Senate.

Here are some of the major provisions that were enacted:

*Professional Standards Review Organizations — No PSRO will be required to make records available pursuant to a Freedom of Information Act request until one year after the entry of a final Court order requiring such disclosure.

*Home Health—Unlimited home health care benefits would be made available under both Parts A and B; the three-day prior hospitalization requirement would be eliminated; the \$60 deductible under Part B would be waived; occupational therapy would be added as a benefit criterion, and the state licensing requirement would be waived.

*Alcohol—Medicare will reimburse for inpatient alcohol detoxification services in free-standing facilities meeting health and safety standards.

*Tests—Diagnostic tests performed for out-

patients in the Outpatient Department of a hospital or a physician's office within seven days of a patient's admission to the hospital would be reimbursed in full.

***Rehabilitation**—Permits reimbursement under Medicare for comprehensive outpatient rehabilitation facilities under Part B based on the costs incurred in furnishing covered services, including: physicians' services, nursing care, physical therapy, occupational therapy, speech pathology, respiratory therapy, social and psychological services, prosthetic devices, drugs and biologicals, supplies, appliances, equipment and other items which are necessary for the rehabilitation of the patient.

***Outpatient Surgery**—Medicare reimbursement is authorized for the facility cost of ambulatory surgical centers where that center has agreed to accept assignment. This reimbursement would be available when the center performed certain procedures that are considered "safe" and "appropriate" in an outpatient setting. The physician's reasonable charge for performing the procedures would be reimbursed at 100%, providing the physician also agrees to accept assignment. A physician who accepts assignment will receive additional Medicare reimbursement for performing certain listed surgical procedures in his or her office.

***Optometrists**—Coverage for optometrists' services to aphakic patients will be provided under Medicare. A study will be conducted to determine whether Medicare should reimburse optometrist services to cataract patients.

***Radiologists and Pathologists**—The special 100% reimbursement with no deductible for services to hospital inpatients by radiologists and pathologists would be limited to those who agree to accept assignment for all services furnished to hospital inpatients.

***Teaching Hospitals**—Alternate forms of reimbursement for professional services rendered by physicians in teaching hospitals are provided. Hospitals having approved teaching programs may elect to be paid for the services of those programs on a reasonable cost basis providing that all physicians involved in the teaching program elect to be paid on such a basis. Alternatively, physicians could elect to receive reimbursement on the basis of reasonable charges under Part B if conditions are met.

***Rural Hospitals**—The HHS Secretary would be authorized to apply Medicare standards to rural hospitals in a flexible manner to take into account the availability of qualified personnel, etc.

***Transfer for Skilled Nursing Facility Coverage**—The 14-day period within which a Medicare beneficiary must be transferred from a hospital to a skilled nursing facility in order to qualify for post-hospital extended care benefits would be extended to thirty days.

***Clinical Labs**—Payment for laboratory services will be limited to the lower of the laboratory's reasonable charge, or the actual amount billed by the physician plus a nominal fee to cover his or her costs.

Extra-Systoles

. . . *The dropped beat.* — In many cases the finger fails to recognize the small pulse beat due to an early occurring systole. In such cases it is usual to assume that either the heart has missed a beat, or that it has sent on a wave too small to be recognized. What usually happens is that the ventricle has made a premature systole, but the force has been so small that it has not been able to overcome the pressure in the aorta and open the aortic valves, or that having done so, the wave of blood sent forth has not been of sufficient strength to be felt by the finger. The duration of the period including the long pause and the preceding beat will often be found to correspond accurately to two cardiac cycles, as represented by two beats of the pulse. — James Mackenzie.

In Memoriam

KENNETH GARBER BARTELS, M.D.

Dr. Kenneth Garber Bartels, 55, a surgeon in Hendersonville since 1959, died October 31 after a period of declining health.

He was a native of Michigan City, Ind., a son of Elsie Garber Medford of Michigan City and the late Fred C. Bartels.

Dr. Bartels attended Purdue University, graduated from Yale University School of Medicine, completed his internship at St. Luke's Hospital in Chicago and took his residency and general surgery at Wayne State University in Detroit. He was a fellow of the American College of Surgeons and was serving as chief of staff of Margaret Pardee Memorial Hospital at the time of his death. He had been president of the Henderson County Medical Society and was serving on the Western North Carolina Medical Peer Review Foundation at the time of his death. He was a Navy veteran and a member of the First Presbyterian Church of Hendersonville.

Surviving in addition to his mother are his wife, the former Emily Tarver; three daughters, Victoria Bartels of New York City, Mary Garber Bartels of Chapel Hill and Emily Carol Bartels of Lititz, Pa.; and a sister, Marjorie Dwyer of Michigan City.

Henderson County Medical Society

Classified Ads

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INTERNIST — NORTH CAROLINA — An eight-man internal medicine private practice group in the Piedmont area of North Carolina is seeking a general internist for July, 1981. This is an excellent opportunity in a lovely progressive city of 170,000. Please address all replies to Mr. J. William Chappell, Business Manager, 338 North Elm Street, Suite 305, Greensboro, N.C. 27401 or call (919) 373-1379.

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Index to Advertisers

| | |
|---|---|
| Merrell National | 130, 131, 132 |
| Mutual of Omaha | 91 |
| Ortega Pharmaceutical Company | 129 |
| Plyler Financial Services | 128 |
| Provident Mutual Life Insurance Company | 119 |
| Purepac Pharmaceutical Company | 81 |
| Ramada Inn Downtown | 76 |
| Roche Laboratories | Cover 2, 75, 96, 97, 98, 111, Cover 3, Cover 4 |
| South Carolina Medical Association | 86 |
| Triangle X-Ray Company | 113 |
| Upjohn Company | 112 |
| Willingway, Inc. | 122 |
| Winchester Surgical Supply Company, Winchester-Ritch Surgical Co. | 80 |
| Wyeth Laboratories | 120, 121 |

VOL. 42, No. 2

North Carolina MEDICAL JOURNAL

The Official Journal of the NORTH CAROLINA MEDICAL SOCIETY □ □ □ March 1981, Vol. 42, No. 3

Original Articles

- Primary Care in Local Health Departments: The Practitioners' View** 167
Arnold D. Kaluzny, Ph.D.,
Wayne Harrison, Ph.D.,
Stephen C. Farrow, M.D., and
Paul S. Jellinek, M.P.H.

- A Sampling of Current Tuberculosis Management in Western North Carolina** 170
Kenneth M. Scott, M.D.,
F.A.C.S.

- Toxic Shock Syndrome: Report of Five Cases** 173
Timothy W. Lane, M.D.

Special Article

- The Physician and Spouse. II. Happiness, Marriage, and Family Life** 176
W. P. Wilson, M.D., and
D. B. Larson, M.D.

Mini-Features

- Toxic Encounters of the Dangerous Kind** 181
Ronald B. Mack, M.D.
- North Carolina Medical Curiosities** 181
E. Wayne Massey, M.D.

Editorials

- Thank You** 183
- Primary Care in Local Health Departments** 183
- Taking the Cure** 185

North Carolina Division of Health Services

- Statement on Byssinosis** 189
Hugh H. Tilson, M.D., and
Charles D. Baucom

Correspondence

- Perinatal Mortality** 195
Richard R. Nugent, M.D.

Bulletin Board

- New Members of the State Society** 196
- What? When? Where?** 196
- News Notes from the Duke University Medical Center** 201
- News Notes from the Bowman Gray School of Medicine of Wake Forest University** 203
- News Notes from the University of North Carolina-Chapel Hill School of Medicine and North Carolina Memorial Hospital** 207
- News Notes from the East Carolina University School of Medicine** .. 212
- American College of Physicians** ... 213
- N.C. Academy of Family Physicians** 213
- In Memoriam** 213
- Classified Ads** 221
- Index to Advertisers** 222

1981 Annual Sessions: May 7-10,
Pinehurst

1981 Committee Conclave: Sept. 23-27,
Southern Pines

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3. Leonards, J.R. and Levy, G.: Biopharmaceutical aspects of aspirin-induced gastrointestinal blood loss in man. *J. Pharm. Sci.* 58:1277, 1969.

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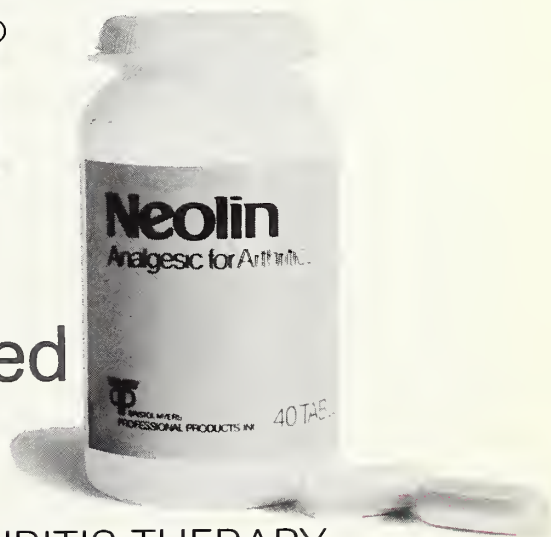
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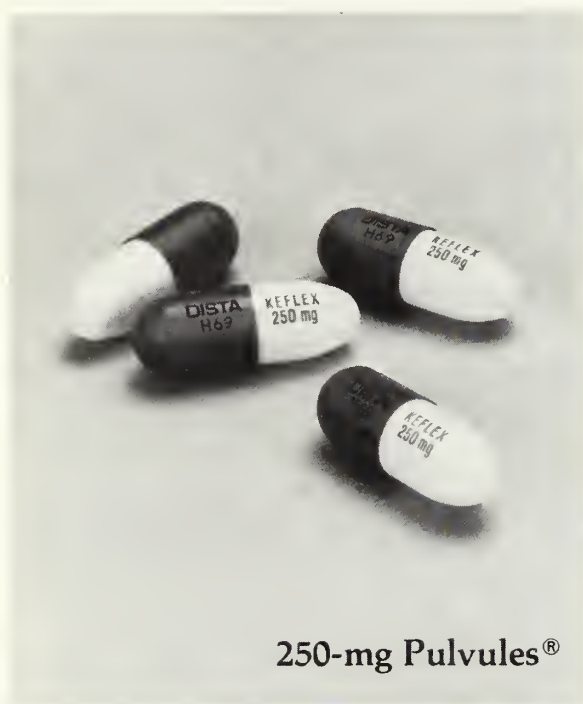
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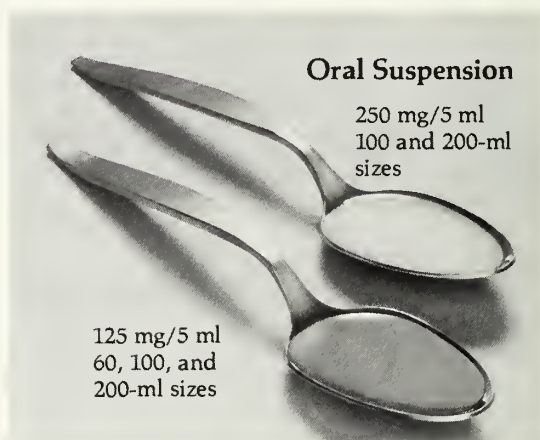
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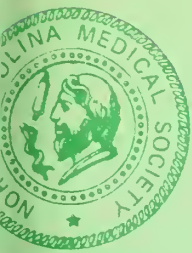
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PRESIDENT'S NEWSLETTER

NORTH CAROLINA MEDICAL SOCIETY

NO. 10

MARCH 1981

Greetings:

SPRING TIME -- WONDERFUL!!! Your insurance company has requested that I remind you that Rocky Mountain Spotted Fever is endemic in North Carolina and 'tis the season! This, of course, is transmitted by tick bite. Seventy-five percent of cases occur under age 20 years. Mortality untreated is 20%. Over the age of 40 years, the mortality may exceed 50%. The highest mortality occurs in the rural non-white, elderly male with no history of tick bite. Remember, tick/fever/rash! Serologic confirmation may not be possible for a week.

Please make your plans now to attend the Annual Meeting of the North Carolina Medical Society in Pinehurst, May 7, 8, 9. The date for resolution submission to the House of Delegates has passed. Emergency resolutions may be presented to the House of Delegates for their consideration at the Annual Meeting however.

I believe that most physicians would agree that PSRO's in North Carolina have done a good job without disruption and unpleasantness. The dedication of the physician members of the eight corporation boards and their physician committees are to be commended! The Tar Heel PSRO Council is working in concert with these boards to respond to a Health and Human Services Regional Office request regarding redesignation, or a reduction in number, of PSRO's in North Carolina. A reduction in the number of PSRO's was in the plans even before the November elections. PSRO funding, nationally, is planned to be reduced from \$175 million to \$163 million. Administrative costs for the eight PSRO's in North Carolina (NOT THE MEDICAL REVIEW) is approximately \$1.8 million. The Regional Office in Atlanta has stated that redesignation will occur in North Carolina. Another meeting of the Tar Heel Council is planned for April 2nd to finalize a response.

The Executive Committee of the Committee on Legislation met with representatives of State Government on February 26th to discuss the Medicaid Program. A \$38 million reduction in federal funds is expected. Previously, the Division of Medical Assistance has sent letters to the county medical society presidents on February 18th requesting a response regarding the program by February 27th. Fortunately, we have more than 10 days to respond to alterations in a program which exceeds \$500 million per year. Forty-one percent of the total budget (over \$200 million) is extended into nursing home programs! This is for less than 5% of the eligible recipients in the program! Hospital expenditures continue in the range of 25%. Physicians are paid approximately 7%. A position paper with recommendations will be prepared for submission to the Legislature and State Government regarding the Medicaid Program in North Carolina. Your suggestions and directions for this program are solicited. I believe the priorities in this program are out of order!!

The North Carolina Commission on Prepaid Health Plans has published two informational brochures on prepaid health care in North Carolina. You may obtain copies of these brochures by contacting the Medical Society Headquarters Office, P. O. Box 27167, Raleigh, N.C. 27611, (919) 833-3836. There has not been a response to date to the Prepaid Commission Report or to the recommendation for a \$9 million loan guarantee fund which would be used to pay the startup and early operating cost of prepaid health plans.


Cost of Medical care continues to be of significant concern to the employers, unions, public and government sectors. Physician percentage remains about the same of the total cost. We must consider all mechanisms to effect cost savings. Your individual practice pattern is the most responsive and effective method. Don't institutionalize or hospitalize unless absolutely necessary. I have made reference above to the \$200 million plus expended in the nursing home program by the Medicaid Program. I would remind you that for every patient in an institution, acute hospital or nursing home, some physician has signed for the admission, made arrangements for or ordered the admission. Other equally effective, less costly care must be utilized. Your practice patterns are the place to begin. In April, I will be asking the Council to discuss and possibly develop a task force to work with industry in the cost containment effort. This has been ongoing with the AMA and some national corporations. Some county societies are in the process of this undertaking in this state. The State Society must provide this leadership. We must meet with and join industry and continue our efforts to preserve our most excellent medical care system. Your participation and suggestions would be welcomed by your Councilors and by myself.

I would remind you of the Third Annual Health Law Forum at East Carolina University in Greenville, N.C., on April 9-10. This is an excellent overview of the professional liability situation in North Carolina. For further information contact Joan Logsdon, Eastern AHEC, P. O. Box 7224, Greenville, N.C. 27834, (919) 758-5200.

Over twenty physicians have served as "Legislative Physician" to the members of the North Carolina General Assembly. These doctors are to be commended for providing a unique service to their state.

On the legislative front, your Committee on Legislation has been busy dealing with issues ranging from a rewrite of the Nurse Practice Act to Generic Drug Substitution. If you receive a notice to contact your legislators on a given bill, please respond immediately. You won't be asked if its not important.

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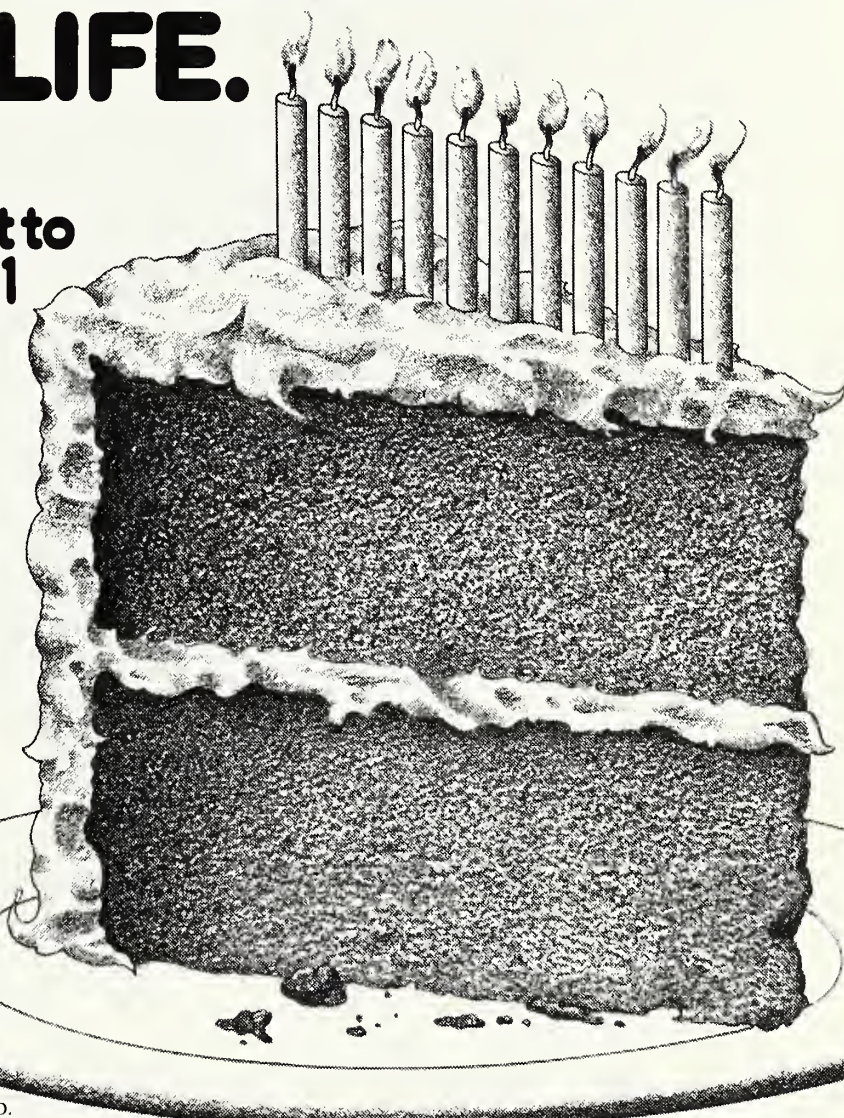
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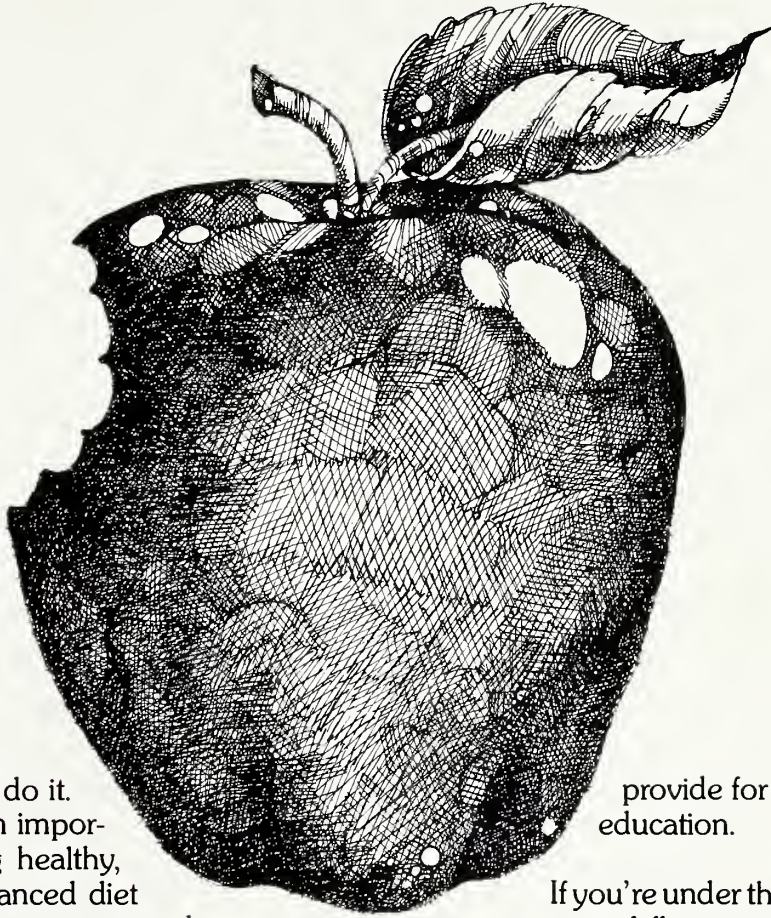
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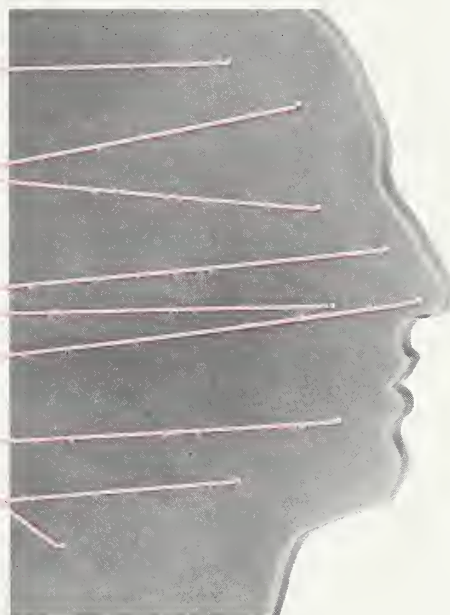
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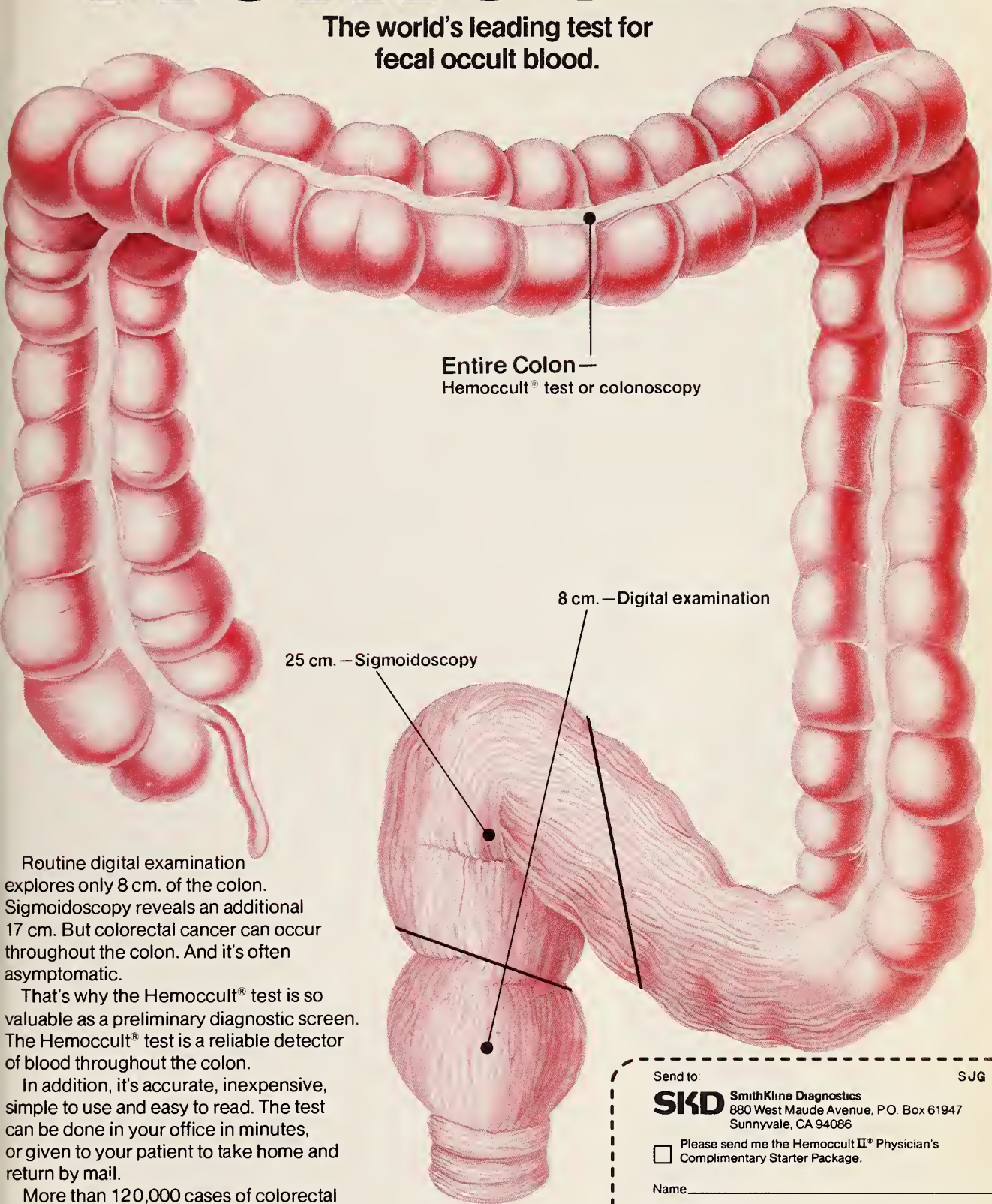
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Use in ambulatory patients: Empirin with Codeine may impair the mental and/or physical abilities required for performance of potentially hazardous tasks such as driving a car or operating machinery. The patient using this drug should be cautioned accordingly.

Interaction with other central nervous system (CNS) depressants: Patients receiving other narcotic analgesics, general anesthetics, phenothiazines, other tranquilizers, sedative-hypnotics, or other CNS depressants (including alcohol) concomitantly with Empirin with Codeine may exhibit an additive CNS depression. When such combined therapy is contemplated, the dose of one or both agents should be reduced.

Use in pregnancy: Safe use in pregnancy has not been established relative to possible adverse effects on fetal development. Therefore, Empirin with Codeine should not be used in pregnant women unless, in the judgment of the physician, the potential benefits outweigh the possible hazards.

PRECAUTIONS:

Head injury and increased intracranial pressure: The respiratory depressant effects of narcotics and their capacity to elevate cerebrospinal fluid pressure may be markedly exaggerated in the presence of head injury, other intracranial lesions, or a pre-existing increase in intracranial pressure. Furthermore, narcotics produce adverse reactions which may obscure the clinical course of patients with head injuries.

Acute abdominal conditions: The administration of Empirin with Codeine or other narcotics may obscure the diagnosis or clinical course in patients with acute abdominal conditions.

Allergic: Precautions should be taken in administering salicylates to persons with known allergies; patients with nasal polyps are more likely to be hypersensitive to aspirin.

Special risk patients: Empirin with Codeine should be given with caution to certain patients such as the elderly, debilitated, and those with severe impairment of hepatic or renal function, hypothyroidism, Addison's disease, prostatic hypertrophy or urethral stricture, peptic ulcer, or coagulation disorders.

ADVERSE REACTIONS: The most frequently observed adverse reactions to codeine include light-headedness, dizziness, sedation, nausea and vomiting. These effects seem to be more prominent in ambulatory than in nonambulatory patients. Some of these adverse reactions may be alleviated if the patient lies down. Other adverse reactions include euphoria, dysphoria, constipation, and pruritus.

The most frequently observed reactions to aspirin include headache, vertigo, ringing in the ears, mental confusion, drowsiness, sweating, thirst, nausea, and vomiting. Occasional patients experience gastric irritation and bleeding with aspirin. Some patients are unable to take salicylates without developing nausea and vomiting. Hypersensitivity may be manifested as a skin rash or even an anaphylactic reaction. With these exceptions, most of the side effects occur after repeated administration of large doses.

DOSAGE AND ADMINISTRATION: Dosage should be adjusted according to the severity of the pain and the response of the patient. It may occasionally be necessary to exceed the usual dosage recommended below in cases of more severe pain or in those patients who have become tolerant to the analgesic effect of narcotics. Empirin with Codeine is given orally. The usual adult dose for Empirin with Codeine No. 2 and No. 3 is one or two tablets every four hours as required. The usual adult dose for Empirin with Codeine No. 4 is one tablet every four hours as required.

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References:

- Rosenthal, P., and Liebman, W.M: Comparative study of stool examinations, duodenal aspiration, and pediatric Entero-Test for giardiasis in children. *J. PEDIAT.* 96: 278 (Feb.) 1980.
- Thomas, G. E., et al: Use of the Entero-Test duodenal capsule in the diagnosis of giardiasis. *South Afr. Med J.* 48: 2219, 1974.
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Primary Care in Local Health Departments: The Practitioners' View

Arnold D. Kaluzny, Ph.D., Wayne Harrison, Ph.D.,
Stephen C. Farrow, M.D., and Paul S. Jellinek, M.P.H.

IMPROVED access to primary health care services has been an important concern in North Carolina since the late 1960s. Despite major efforts by both private and public providers across the state to reduce barriers, it was clear by the mid-1970s that substantial unmet need remained. For example, in 1976 North Carolina ranked 38th in the nation with respect to its physician/population ratio, and over half the counties in the state were federally designated as medically underserved.¹ Moreover, health status data indicate that during the mid-1970s North Carolina suffered from the fourth highest infant mortality rate in the nation² and ranked 44th with respect to life expectancy at birth.³

In 1977, in response to these conditions, the North Carolina General Assembly provided \$2.75 million (for the 1977-1979 biennium; subsequently extended) to the Division of Health Services (DHS) for the implementation of a state primary care program in selected local health departments. Program standards and guidelines were developed by DHS during 1977, and by May 1978 the program had been im-

plemented in 20 of the state's 81 local health departments.

The program had substantial political implications. Even before implementation had been completed, the North Carolina Medical Society voiced strong objections. In February 1978 the medical society issued a position paper, approved by the society's executive council, which severely criticized the cost, program design, and planned use of nurse practitioners. It was argued that health departments were incapable of providing cost-effective primary care services; that health departments, in limiting the provision of services to normal operating hours, were not able to offer "true" primary care, which, by definition, is "continuous care"; and that existing program standards and guidelines for the supervision of physician extenders were "obscure and confusing . . . and could encourage such individuals to perform (medical) acts in violation of patient safety and state statutes."

The position paper stimulated considerable debate over the program and culminated in the formation of a special Governor's Primary Care Task Force composed of both public and private sector representatives to study the program and make recommendations for its future. The final report was completed after nine months of exhaustive analysis and discussion and was submitted to the medical society at its May 1979 annual meeting at Pinehurst. While the task force

left the original program standards intact, significant changes in the guidelines were recommended, with special emphasis on promoting involvement of the private medical community in local decisions to apply for state primary care program funds. Despite these substantial and rather conciliatory revisions, made largely through the active efforts of medical society members on the task force, the delegates at the 1979 meeting voted merely to "file" rather than endorse the report.

Why has acceptance of the North Carolina primary care program by the medical society proven so elusive? The question is important not only in attempting to reconcile differences over this particular program but in understanding some of the dynamics of the relationship between the public and private health sectors in North Carolina. The objections to the program cited in the medical society's 1978 position paper provide a partial answer. Nevertheless, the fervor of the dialogue and the failure to endorse the recommendation of the task force suggest that the program has touched deeper concerns of the private medical community. These concerns transcend technical considerations of cost, program design, and manpower supervision.

In order to assess the basis of the resistance to the program, a survey of the opinions of North Carolina primary care physicians was conducted. This survey focused on ac-

From the Department of Health Administration
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University of North Carolina
Chapel Hill, N.C. 27514

This work was supported in part by grant number HS 01971 to the Health Services Research Center of the University of North Carolina, Chapel Hill, from the National Center for Health Services Research, Department of Health, Education and Welfare.

tivities of local health departments and beliefs about the state primary care program.

METHOD

Sample

A sample of 1,382 primary care physicians was drawn from the medical society rolls of practicing physicians. Selection was limited to physicians practicing in counties with funded programs and matched counties without primary care programs but similar in socio-demographic characteristics. Primary care physicians included those in family practice, internal medicine, pediatrics and obstetrics and gynecology. Of the 1,382 questionnaires mailed, 557 were returned, of which 538 (38.9%) were complete and subsequently analyzed.

A postcard and telephone re-survey of 10% of the original sample ($N=138$) revealed no differences between physicians completing and not completing the questionnaire. Physicians participating in the re-survey were asked whether they returned the initial questionnaire, their age, extent of cooperation with the local health department in accepting patients referred by the department, their feelings about the appropriateness of the health department providing ambulatory care and the extent to which they agree that the provision of primary care services by local health departments will be significant in improving and expanding health services in the state.

Questionnaire

In the initial survey physicians were asked several demographic questions, including age, county of practice, place of training, length of residency, board certification status, and length of time practicing in the community. In addition, 11 questions focused on the nature and extent of the physician's cooperation with the local hospital(s) and health department.

Fifteen questions concerned the physician's familiarity with local health department activities, in particular, assessing awareness of, and involvement with, local implementation of the primary care

program. Further questions concerned the physician's attitude toward the state primary care program. Respondents were asked to indicate the extent of their agreement with 26 wide-ranging belief statements regarding the program.

A final set of 47 questions focused on the activities of health departments. Physicians were asked to indicate the appropriateness of each activity for their local health departments.

RESULTS

Analysis revealed considerable confusion about the program. Although most respondents correctly stated that their local health department either was or was not implementing the primary care program, a large percentage (42%) were mistaken. Specifically, 63% (143/227) of the physicians in counties implementing the primary care program were aware that their counties had implemented the program: 47% (118/253) of the physicians in counties not implementing the program believed that their counties had implemented the program.

Attitudes Toward the Program and Health Department Activities

Physicians were asked a number of questions regarding the primary care program and health department activities. Responses to each of these two sets of questions were submitted to a factor analysis in

Table II
Personal Health Care Services Factor

| Factor Loading* | Questionnaire Item** |
|-----------------|--|
| .77 | Provide ambulatory health care for medically underserved. |
| .75 | Provide ambulatory health care to children medically underserved. |
| .72 | Provide comprehensive pre- and postnatal care for medically underserved. |
| .68 | Provide ambulatory health care to children under Medicaid. |
| .68 | Provide preventive care for illness to mother and children. |
| .67 | Screening and referral services for diseases that are leading causes of death. |
| .65 | Provide well-child services. |

*Factor loadings are correlations of the questionnaire item responses with the constructed index (factor), and serve to define the index.

**Response categories involved a 7-point scale ranging from highly inappropriate to highly appropriate.

order to reduce them to interpretable indices. A single index (factor) adequately characterized responses to questions about the primary care program and is presented in Table I. Based on these questions scores were calculated for each physician to determine their degree of support toward the primary care program.

Two indices were necessary to characterize physician responses to questions about basic health department activities; personal health care services and environmental services (see Tables II and III). Scores were calculated for each factor reflecting the perceived appropriateness of personal health services and environmental services provided by local health departments.

Relationships Between Physician Characteristics and Attitudes

Analysis revealed some associations between physician characteristics and their attitudes toward the primary care program and other activities of local health departments. Physician characteristics used in the analysis were age, board certification status, extent of cooperation with local health departments, residence in a county implementing the program, and awareness of local implementation. Physicians were characterized dichotomously on each of these attributes. In addition, the number of changes in the state's program recommended by the phy-

Table I
Primary Care Program Factor

| Factor Loading* | Questionnaire Item** |
|-----------------|--|
| .84 | The program will improve and expand services. |
| .83 | The program is a bad idea. |
| .82 | It is appropriate for DHS to fund this program. |
| .79 | The program will increase the appropriateness of health department activities. |
| .76 | Even though the program activities may not be primary care they are needed by the community. |
| .75 | The program will improve the quality of local health department activity. |
| .72 | The program will provide care to persons who otherwise might never get such care. |
| .72 | The program will make services more accessible to the population. |

*Factor loadings are correlations of the questionnaire item responses with the constructed index (factor), and serve to define the index.

**Response categories for questions were—strongly disagree, disagree, uncertain, agree and strongly agree.

Table III
Environmental Services Factor

| Factor Loading* | Questionnaire Item** |
|-----------------|--|
| .84 | Water purification |
| .84 | Sewage and waste disposal |
| .81 | Fluoridation |
| .79 | Milk plant inspection |
| .76 | Poisonous pesticides |
| .76 | Control environmental conditions that spread disease |
| .75 | Septic tanks |
| .71 | Monitoring of air quality |

*Factor loadings are correlations of the questionnaire item responses with the constructed index (factor), and serve to define the index.

**Response categories involved a 7-point scale ranging from highly inappropriate to highly appropriate.

sician were analyzed by physician characteristics. Analysis revealed the following significant relationships ($p < .05$).

1. Younger physicians (mean-split on age):
 - * suggested more changes in the primary care program, and
 - * regarded environmental services as less appropriate activities.
2. Physicians who cooperate more extensively with their health departments:
 - * suggested more changes in the program,
 - * attached more value to the program, and
 - * regarded provision of personal health care services as more appropriate.
3. Physicians in counties implementing the program:
 - * cooperate more extensively with their health departments.
4. Physicians who were aware of whether their health department had or had not implemented the primary care program:
 - * suggested more changes in the program,
 - * regarded provision of personal health care services as more appropriate, and
 - * regarded environmental services as less appropriate activities.

Unsolicited Comments by Physicians

In addition to replying to the questionnaire items, many physicians responded to the opportunity to comment about the primary care program.

Primary Care

In their comments, the most frequently mentioned complaints were that:

- * services would be provided by nurse practitioners, and such services would be inferior to those provided by physicians,
- * the program would duplicate existing and adequate services, and would lead to fragmentation of care,
- * cost of services would be higher, and
- * the program represented a further incursion by the state into the delivery of health care.

The most frequently mentioned recommendations were that:

- * 24-hour care be provided.
- * services be limited to those who could not pay, and
- * discussion with local physicians prior to program implementation be increased.

DISCUSSION

The finding that almost half of the responding physicians were mistaken in believing that their local health department was or was not implementing a primary care program indicates a lack of contact and involvement with these agencies. A private physician not aware of the program's status within his own community cannot be expected to render an informed judgment concerning a statewide program at the annual meeting of the medical society's House of Delegates. Lacking specific knowledge of the program within his own community, the private physician is likely to rely on ideological preconceptions and consequently oppose a program which, had he had more adequate information, may have been supported.

The survey results also suggest some confusion surrounding the definition of primary care. Many traditional health department activities have had "primary care" elements and it seems likely that many of the activities funded by this new program and labeled as primary care have previously been performed through a variety of categorical programs such as maternal and child health and chronic disease control. Consequently, some confusion among physicians regarding the nature of the program was perhaps inevitable. Nevertheless, the labeling as "primary care" provided an opportunity to raise substantive questions regarding the role of public health agencies in areas traditionally considered to be within the purview of private practice.⁴ This discussion centered on substantive issues of continuity and quality of care but had an underlying current involving the encroachment of the public sector into the private practice of medicine.

In reviewing the apparent determinants of physicians' attitudes toward the program it is important to note that previous cooperation with the local health department was positively related to their attitude toward the primary care program. This suggests that local health departments as well as local practitioners must take the initiative to create a more cooperative environment in the total provision of care at the local level. While the dispute continues, an important avenue for resolution appears to be discussion among public health personnel and physicians at the community level. The findings of this study suggest that information-sharing at the local level is important in meeting the primary health care needs of the people of North Carolina.

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A Sampling of Current Tuberculosis Management In Western North Carolina

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ABSTRACT The final 100 consecutive female admissions to the Western North Carolina Hospital at Black Mountain for treatment of tuberculosis were studied, with particular reference to their experience before admission as well as to those situations encountered during admission. This analysis reveals that some serious deficiencies exist today among some physicians and community hospitals in western North Carolina as to recognition and clinical management of tuberculosis. It also reminds us of the protean nature of this disease and the obstacles met in efforts to cope with it. An appeal is made to all physicians in North Carolina to be more aware of tuberculosis and of how to deal with it, an important disease which still infects about 14% of the state's population.

THE Western North Carolina Hospital in Black Mountain, a state-operated tuberculosis sanatorium since 1937, closed its doors on March 31, 1980, after serving its last nine years as a specialty hospital caring for patients with all pulmonary diseases and with terminal cancer of all kinds. Closing the hospital was in keeping with the state's policy of shifting the care of tuberculosis patients from state-operated sanatoriums to local physicians and local community hospitals, as is

now done in most of the United States. It was hoped that by the time the hospital closed, local community health facilities would be prepared to take over the management of tuberculosis whenever hospitalization became necessary. At this writing, such preparation, though progressing, is still incomplete.

For many years, 29 of the 38 westernmost county health departments in North Carolina maintained regular tuberculosis clinics staffed by public health nurses and conducted by staff physicians from the Western North Carolina Hospital. These county health departments and their chest clinics will continue to operate and will be the keystone of any effective tuberculosis control program. But at present it is uncertain when local physicians and their community hospitals will be ready for their new role in managing active tuberculosis. To gain some idea of their present readiness, a sampling was made of recent tuberculosis admissions to the Western North Carolina Hospital; the sampling consisted of all of the final 100 consecutive female admissions to my floor in this hospital. These patients were studied with particular interest in their experience *preceding* admission. By looking at these 100 admissions, which involved 80 separate patients (some had more than one admission), we may have an adequate sampling of present-day tuberculosis experience, although all patients were women. Admittedly, the number is too small to permit proper analysis but the view is revealing.

Of the 80 patients in this sampling, 67 were admitted once, six

were admitted twice, three were admitted three times, and two more than three times for a total of 100 admissions (if the last two patients are counted as each having three admissions). Active pulmonary disease due to *M. tuberculosis* was found in 61 patients; active extrapulmonary disease due to *M. tuberculosis* was found in 11 patients (including one patient with disease in two organ systems and two patients with disease in three organ systems); active pulmonary disease due to *M. intracellulare* was found in seven patients, and active pulmonary disease due to *M. kansasii* in one patient.

Twenty-two admissions were for the purpose of determining whether the patients had active tuberculosis. By the time of discharge, active tuberculous disease (*new* cases) was confirmed in eight patients and ruled out in six; re-activation of old *known* tuberculosis was confirmed in one patient and ruled out in seven, two of whom were found to have carcinoma of the lung.

Some of the factors leading to these 100 admissions are:

1. Unsuspected active cavitary tuberculosis discovered on *routine* chest x-ray films (pre-operative, emergency room, etc.) in three patients.

2. Active tuberculosis contracted from *unsuspected home* contacts in five patients.

3. Active tuberculosis contracted from *unsuspected nursing home or rest home* contacts in six patients.

4. Within the last year, four patients with active tuberculosis were immigrants (two Koreans, one Japanese, one Cambodian). Tubercu-

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losis is still prevalent in Asian countries, but refugees are carefully screened before they enter the United States and those with disease have been quickly identified. Therefore, Asian refugees should pose no great public health problem to us; the greatest public health hazard today comes from the individual with *unsuspected* tuberculosis—the person with active disease unknown to himself or to others.

5. Active tuberculous disease missed in five patients because the patients were *aged* and it was assumed that chronic obstructive pulmonary disease, arteriosclerotic heart disease, pulmonary fibrosis, etc., could account for symptoms.

6. In these 80 women patients, the diagnosis of active tuberculosis was delayed for an average of 12 months in nine patients and for an average of 14 years in two others. It was missed because it was not thought of or was not seriously considered. Missing a major diagnosis such as tuberculosis in 11 of 80 patients for that many years is difficult to accept. Some physicians have been most aware of the problem of detecting tuberculosis, while some others have been considerably less so. One watched while unilateral, massive pleural effusion developed in one of his patients over a period of two years; she became moribund as 60 liters of pleural fluid were aspirated from her chest over a 10-week period. Eventually, a fluid specimen was sent to a commercial laboratory, which reported acid-fast bacilli (AFB) on direct smear. The next day the patient was transferred to us, but she had developed tuberculous peritonitis as well. Although critically ill for four weeks thereafter, she responded dramatically to chemotherapy and is well today; she is now half-way through her chemotherapy course.

A 61-year-old woman had been in and out of hospitals in two adjoining states for many years with rather severe diarrhea, anemia and malnutrition, for which she had at one time received 13 electroconvulsive treatments. At no time was she given a PPD skin test, nor was any chest x-ray study made during the 16 years before her admission to the

Western North Carolina Hospital, even though her last chest film, made in 1962, had been read as showing "old healed tuberculosis." The next study in 1978 was requested only after a full year of progressively increasing productive cough, malaise, anorexia and weight loss beginning with a "cold that would not go away." After her admission we demonstrated, through appropriate blood and stool tests and a jejunal biopsy, that she did indeed have celiac (non-tropical) sprue; that disease entity should not have blinded her physicians to the equally important fact that her left upper lobe had become almost destroyed by tuberculosis with multiple cavities (the largest 5 cm in diameter), sputa strongly positive for AFB, and full-blown pulmonary symptoms for many months. Minimal suspicion could have averted many years of invalidism and unnecessary exposure of others to tuberculosis, for as soon as this patient was begun on appropriate anti-tuberculosis chemotherapy, which she tolerated very well, and was placed on a gluten-free, lactose-free diet, she made a dramatic recovery.

7. Of the 80 patients in this series, active pulmonary tuberculosis lesions were clearly visible but unrecognized on earlier, outside chest x-ray films in nine patients.

8. Where known recent PPD conversion had not been followed by chemotherapy, clinical disease developed in two patients.

9. Failure to perform interval follow-up study or therapy on persons suspected initially of having active tuberculosis resulted in far-advanced active disease in eight patients.

10. Mistreatment of known tuberculosis resulted in advanced active disease in two patients. This category did not include poorly complying patients such as alcoholics, but only those whose physicians misdirected their chemotherapeutic regimen. For example, a 69-year-old woman with a pronounced Pott's gibbus for 25 years, Addison's disease for seven years, and urinary tract tuberculosis for five years was given isoniazid alone

in 1974. When urine cultures in 1977 yielded a growth of AFB totally resistant to isoniazid and sensitive to streptomycin, rifampin and ethambutol, the physician continued her on isoniazid. Urine cultures two years later again grew AFB resistant to isoniazid and sensitive to the other drugs. When the patient's physician then again ordered the county health department nurse to continue supplying isoniazid alone to the patient, the nurse called for help from the health department, which made arrangements for the patient's admission to the Western North Carolina Hospital for assessment and management.

11. Among my 80 patients, skin testing with PPD 5TU was negative (although positive with PPD 250TU) in two patients with active disease caused by *M. tuberculosis*. PPD 5TU skin tests were negative or mildly reactive in all seven *M. intracellulare* infections in this series.

The majority of the patients in this series presented complex and serious medical problems requiring not merely hospitalization but a certain degree of expertise and individualization of tuberculosis management obviously not earlier available to the patients:

1. Intolerance to anti-tuberculosis drugs was a problem in nine patients. One patient with far-advanced bilateral disease developed severe allergies to isoniazid, streptomycin, rifampin and ethambutol. She had generalized exfoliative dermatitis more than once, since she was allergic to many other drugs as well. Ultimately her disease was controlled by a combination of capriomycin, pyrazinamide, ethionamide and PAS, which she did tolerate. Two patients were intolerant of isoniazid and rifampin, one of isoniazid and streptomycin, one of rifampin and streptomycin, three of isoniazid alone, and one of rifampin alone.

2. Seventeen patients were particularly vulnerable to tuberculosis and their management made especially difficult by other medical problems:

alcoholism with marked liver damage;

arteriosclerotic heart disease,

with congestive heart failure;
 extensive burns;
 carcinomas of lungs, breasts
 and colon;
 severe chronic obstructive
 lung disease;
 diabetes mellitus;
 gastric resection (sub-total);
 resection of 3 meters of small
 bowel;
 multiple laparotomies, with
 partial bowel obstruction;
 pulmonary embolism and in-
 farction;
 hip fracture and subsequent
 decubiti (incurred elsewhere);
 senile dementia;
 non-tropical sprue; and
 marked debility and weight
 loss (from whatever cause).

3. Major surgery for the treatment
 of tuberculosis was required for
 four patients, all with excellent re-
 sults:

lobectomy for atypical tubercu-
 losis (*M. intracellulare*) in two
 patients; lobectomy for *M. tu-
 berculosis* in one patient (to rule
 out malignancy); and pneumo-
 nectomy and radical thoraco-
 plasty for *M. tuberculosis* infec-
 tion in one patient (who had had
 a lobectomy and partial thoraco-
 plasty elsewhere and had devel-
 oped a bronchopleural fistula and
 tuberculous empyema).

What does this information tell
 us? Admittedly the small sampling
 of patients in this series can have
 little statistical significance. But the
 observations do suggest the neces-

sity of improving our approach to
 the tuberculous patient.

It is clear that not every physi-
 cian in western North Carolina
 recognizes tuberculosis in his prac-
 tice or can manage it competently
 when it is recognized. Some physi-
 cians are indeed well prepared, and
 their competence is reassuring. For
 others, we must provide appropri-
 ate education about tuberculosis in
 community hospital staff meetings
 and county medical societies, for
 already we are seeing some tragic
 consequences of poor management
 of patients with tuberculosis. We
 are not worried by the physician
 who does not know all that he might
 know about tuberculosis but who
 will seek help whenever he needs it;
 we are alarmed by the physician
 who does not know and who knows
 not that he knows not.

It is also clear that few commu-
 nity hospitals in western North
 Carolina are prepared to admit a tu-
 berculous patient who requires
 hospitalization, even as an emer-
 gency. Many hospital Infection
 Control Committees still do not
 have realistic plans for handling
 patients with tuberculosis. The
 strict isolation often imposed on
 such a patient with cap, mask,
 gown, gloves, sterilization of fo-
 mites, etc., attests to a lack of un-
 derstanding and planning. Fortu-
 nately, it is not necessary for every
 community hospital to bear the full
 load of tuberculous-patient respon-
 sibility in its own community, for

the Division of Health Services
 of the Department of Human Re-
 sources has undertaken to contract
 certain key community hospitals —
 perhaps three within the western-
 most 38 counties of North Carolina
 — for admitting tuberculous pa-
 tients. Such hospitals must meet
 certain staff and building require-
 ments (such as air exhausted di-
 rectly out-of-doors from rooms ac-
 commodating infectious patients) to
 qualify. But even when these hos-
 pitals have been chosen and their
 contracts with the state have be-
 come operative, it is still incumbent
 upon *all* community hospitals to
 have some kind of practical, realis-
 tic approach to tuberculosis, since
 tuberculosis can be expected to be
 around for decades to come.

About 14% of the population of
 North Carolina reacts positively to
 tuberculin skin tests; that is, about
 14% of its people are or have been
 infected with *Mycobacterium tu-
 berculosis*. This is twice the average
 for the entire nation. Unless the
 control of tuberculosis is intel-
 ligently and unremittingly pursued,
 we may well see an increase in the
 percentage of drug-resistant tubercle
 bacilli above the present na-
 tional primary resistance rate of 4%
 (some ThirdWorld countries al-
 ready have primary drug-resistance
 rates approaching 40%). Tubercu-
 losis is still too serious and too com-
 plex and too protean a disease to
 permit any relaxation in our efforts
 to conquer it.

TUBERCULOSIS OF THE SPINE

The vertebrae of the spine when contracted into a hump behind from disease, for the most part cannot be remedied, more especially when the gibbosity is above the attachment of the diaphragm to the spine. Certain of those below the diaphragm are carried off by varices in the legs, more especially by such as occur in the vein at the ham; and in those cases where the gibbosities are removed, the varices take place also in the groin; and some have been carried off by a dysentery when it becomes chronic. And when the gibbosity occurs in youth before the body has attained its full growth, in these cases the body does not usually grow along the spine, but the legs and the arms are fully developed, whilst the parts (about the back) are arrested in their development. And in those cases where the gibbosity is above the diaphragm, the ribs do not usually expand properly in width, but forward, and the chest becomes sharp-pointed and not broad, and they become affected with difficulty of breathing and hoarseness; for the cavities which inspire and expire the breath do not attain their proper capacity. — Hippocrates. Of the Epidemics.

Toxic Shock Syndrome: Report of Five Cases

Timothy W. Lane, M.D.

ABSTRACT Toxic shock syndrome (TSS) was first described in 1978. More recently the Center for Disease Control (CDC) has reported TSS in young menstruating women. The syndrome is characterized by the abrupt onset of watery diarrhea, diffuse abdominal tenderness, nausea, vomiting and high fever. TSS rapidly progresses to severe hemodynamic shock and is accompanied by a diffuse erythematous, often maculopapular rash that desquamates especially on the palms and soles 1-2 weeks after the onset of illness. Five patients fulfilling the CDC's criteria for TSS have been recognized by the author over the past three years and are reported here. As in the CDC cases, these patients were young women who were menstruating and using tampons at the time they became ill. Vaginal cultures from two of the patients grew *Staphylococcus aureus*. These cases support the epidemiologic hypothesis that tampons and toxin-producing staphylococci may be important factors in the pathogenesis of this serious multisystem disorder.

THE Center for Disease Control (CDC) has brought to the attention of physicians and the general public a recently described illness, the toxic shock syndrome (TSS). With the cooperation of state health departments, the CDC has been collecting and studying reported cases. Epidemiologic investiga-

tions have shown that TSS occurs mainly in menstruating women and is strongly linked to the use of tampons. The CDC's studies have received much attention in the news media. It is important that menstruating women and their physicians be familiar with this syndrome, recognize its presenting signs and symptoms, and have knowledge of its possible pathogenesis and treatment.

TSS was first described in 1978 by Todd et al in young children with nonbacteremic and localized staphylococcal infections.¹ It is an acute illness characterized by the onset of high fevers (104-105°F), nausea, vomiting, cramping abdominal pain, profuse watery diarrhea, and occasional sore throat, myalgias, headache and conjunctivitis. Over a few days the disease progresses to shock. A diffuse macular rash is a striking concomitant finding. In the past three years, five patients with TSS have been recognized in Greensboro, North Carolina, and are reported to describe the common features and complications of this entity.

CASE REPORTS

1. In 1977 a 31-year-old patient developed nausea and vomiting, cramping abdominal pains, and profuse watery diarrhea two days after the onset of menses for which tampons were used. On admission to the hospital T was 106°F and BP was 60 mm Hg systolic. Physical exam was marked by delirium, diffuse erythroderma, abdominal guarding, and decreased bowel sounds. Pelvic examination re-

vealed a purulent tampon in place, culture of which yielded growth of *S. aureus*. There was no localized pelvic tenderness. Cultures of cerebrospinal fluid and aspirate from culdocentesis were sterile, as were cultures of urine and blood. Stool culture grew no pathogens. Broad-spectrum antibiotics including gentamicin, chloramphenicol, penicillin and nafcillin were given as were vasopressors. Fluid volume was replaced appropriately. The illness was complicated by respiratory failure secondary to adult respiratory distress syndrome (ARDS) and exfoliation of the rash on the palms and soles. The patient recovered over three weeks of hospitalization.

2. In 1978 a 26-year-old patient developed watery diarrhea, nausea, vomiting, fever and chills two days after the onset of her menses. Tampons were used. On admission T was 104°F and BP 90/40 mm Hg. A diffuse erythematous rash, bilateral pulmonary rales and abdominal tenderness with decreased bowel sounds were present. Pelvic examination was normal. Chest x-ray revealed pulmonary edema. A normal pulmonary capillary wedge pressure confirmed a non-cardiogenic cause. Management included fluid replacement and broad spectrum antibiotic administration. A gastrointestinal focus of infection was suspected but gallbladder, upper GI and barium enema x-rays were normal. She developed an exfoliative rash after discharge. She

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was readmitted a month later, again at the time of her menses with a similar but milder illness that lasted only three days.

3. In February 1980 an 18-year-old woman developed diarrhea, cramping abdominal pains, nausea and vomiting four days after onset of menses for which tampons were used. On admission, T was 105.7°F and BP 70/40. Examination revealed mild abdominal tenderness and a diffuse maculopapular rash. Chest x-ray was normal. Cultures of blood, stool and urine showed no pathogens. The initial diagnostic impression was a viral syndrome. Over four days, her condition improved, conservative therapeutic measures — replacement of fluid losses and antipyretics — being employed. Menses ceased the second hospital day. About one week after onset of the illness, the rash desquamated on the palms and soles.

4. In May 1980 a 26-year-old woman developed explosive watery diarrhea followed by fever, severe myalgias, arthralgias, and sore throat. These symptoms occurred on the third day of her menses, for which Rely® tampons were used. Vital signs revealed a T of 104°F and systolic BP 70 mm Hg. The lips were fissured and the pharynx was injected but without exudate. There was bilateral non-purulent conjunctivitis. An erythematous rash was present on the trunk and upper extremities. Cultures of blood, stool, urine and spinal fluid yielded no pathogens. Pelvic examination was normal. She was treated with chloramphenicol and BP was supported by fluid replacement. The hospital course was complicated by transient acute renal failure requiring hemodialysis, severe pancreatitis, non-cardiogenic pulmonary edema, and prolonged ileus. Over a three-week hospitalization the patient slowly recovered. Two weeks after admission the rash progressed to local exfoliation.

In September 1980 a 32-year-old woman developed lower ab-

dominal cramps, nausea, vomiting and fever (101-102°F) three days after beginning menses. She used Rely® tampons. On the third day of her illness she became confused and febrile to 105°F; BP was 75/30 mm Hg. A diffuse erythematous rash, generalized muscle tenderness, and mild abdominal rebound were noted. Pelvic examination showed a tampon in place, and vaginal culture grew *S. aureus*. Cultures of spinal fluid, blood, stool and urine revealed no pathogens. The patient was given nafcillin and intravenous fluids and the symptoms resolved over one week. Ten days after the onset of illness the rash desquamated on the palms and soles.

DISCUSSION

These five patients fit the characteristics of TSS as described by the Center for Disease Control. The usual symptoms and findings of hectic fever, shock, an erythematous rash, nausea and vomiting, cramping abdominal pain, myalgias, and watery diarrhea were present in all five of our patients. Laboratory findings of leucocytosis with left shift, elevated ESR, azotemia, pancreatitis, elevated creatine kinase, abnormal liver function tests, pyuria and hypoxemia were also present to a varying extent. Occasional complications of TSS include non-cardiogenic pulmonary edema which three of our five patients demonstrated. Rarely, myocarditis and digital gangrene have been described but were not observed in this series. The CDC has established five criteria for the diagnosis of the syndrome: 1. Fever of $\geq 102^{\circ}\text{F}$. 2. Erythematous rash progressing to desquamation, particularly of the hands and feet. 3. Hypotension: \leq BP 90 mm Hg for adults or $\leq 5\text{th}\%$ by age for children ≤ 16 y.o. or orthostatic syncope. 4. Involvement of at least three organ systems (GI, renal, cardiac, hepatic, hematologic and CNS). 5. No evidence of Kawasaki's disease, acute rheumatic fever, Rocky Mountain spotted

fever, meningococcal infection, leptospirosis or bacteremia.²

In the past year well over 300 cases of TSS have been reported to the CDC, more than 95% of whom were young women with a mean age of about 25 years.³ More than 95% of these patients had the onset of illness during menstrual periods, and there had been a very high use of tampons among these women. The true incidence of the syndrome is not precisely known, and estimates will obviously change as its recognition increases. The Wisconsin State Department of Health has had a particular interest in TSS over the past year and has estimated the incidence at 3-15 cases/100,000 menstruating females/year.⁴ Association with the use of tampons has been demonstrated in case control studies performed by the CDC and by the Wisconsin State Department of Health.^{4,5} Approximately 98% of the women with TSS have used tampons with their menses vs. an 85% use of tampons in menstruating women without TSS, a statistically significant difference. In September 1980 the CDC reported a case control study of the brands of tampons used and their relationship to TSS,² which disclosed a statistically significant association with the use of Rely® tampons. Seventy-one percent of patients with TSS used Rely® vs. only 26% in the control group ($p 0.005$). Two of my five patients (cases 4 and 5) used Rely® tampons. The relative risk of developing TSS with use of Rely® tampons was 7.9 times the risk with the use of other brands. Because of this impressive epidemiologic evidence, the Procter and Gamble Company ceased distribution of Rely® tampons on September 22, 1980. Because the incidence of the disease is felt to be relatively low, it has not been recommended that all tampons be withdrawn from the market. It is best that each woman make an informed decision about the use of tampons. Clearly, tampons should be promptly removed and the advice of a physician sought if the signs and symptoms of TSS occur.

The exact role of tampons in the pathogenesis of TSS is not under-

stood, but they appear to serve at least as a co-factor. In the cases reported to the CDC where appropriate vaginal cultures have been taken, *Staphylococcal aureus* has been recovered 98% of the time. Two of our patients had such cultures, both of which yielded *S. aureus*. Recently the CDC found only 7% vaginal carrier rate of *S. aureus* in healthy menstruating females who used tampons.² The staphylococcus is therefore the leading suspect in the pathogenesis of TSS. It is postulated that a toxin or toxins elaborated by the organism gain entry to the circulation and attack systemically.

Treatment of TSS is mainly supportive — intravascular volume replacement and appropriate management of more severe complications such as adult respiratory distress syndrome and acute renal failure. It has been suggested by the CDC that an anti-staphylococcal penicillin be used for seven to 10 days, based on the observation that recurrences were reduced in a limited number of women so treated. Once a woman has contracted TSS, tampon use should be discontinued. Some have suggested that once staphylococci have been eradicated from the vagina it can be reinstituted, but this is debatable. The CDC has determined that recurrence rates have been as high as 40% in women who have had TSS and continue to use tampons.⁴

Table I summarizes the clinical and laboratory data in our cases and demonstrates several interesting findings. All patients had moderate thrombocytopenia with onset. Two of three patients in whom serum creatine kinase (CK) was measured had elevated values, suggesting rhabdomyolysis. MB fractions of CK were not elevated. Two patients had mild to severe renal insufficiency. Three developed acute respiratory distress syn-

| TABLE I SUMMARY OF CASES OF TOXIC SHOCK SYNDROME | | | | | |
|---|-------------------|-------------------|------------------------------|-------------------|-------------------|
| Findings | Case 1 | Case 2 | Case 3 | Case 4 | Case 5 |
| Rash/ Desquamation | +/+ | +/+ | +/+ | +/+ | +/+ |
| Diarrhea/ Nausea and Vomiting | +/+ | +/+ | +/+ | +/+ | +/+ |
| BP | 60/0 | 90/40 | 70/40 | 70/0 | 75/35 |
| White Blood Count (Thousands/mm ³) | 8.3 | 9.1 | 15.2 | 26.1 | 10.7 |
| Differential WBC | 21PMN 62 stabs | 45PMN 46 stabs | 8 PMN 68 bands 9 metas | 28PMN 52 stabs | 74PMN 19 stabs |
| Platelets (Thousands/mm ³) | 80 | 85 | on smear | 170 | 150 |
| Creatine Kinase (Normal 21 to 215 IU) | 256 | ND* | ND | 652 | 160 |
| BUN (mg/dl)/ creatinine (mg/dl) | 57/2.5 | 15/1.3 | 53/2.0 | 69/8.9 | 18/1.1 |
| Chest X-ray | ARDS** | ARDS | WNL | ARDS | WNL |
| Serum Amylase (Normal 5 to 85 IU) | 177 | 70 | ND | 640 | 15 |
| Serum Calcium (mg/dl) | 6.8 | 6.5 | 7.3 | 5.9 | 7.6 |
| Pyuria (No. WBC/hpf) | > 20 | > 15 | > 50 | > 50 | > 50 |
| Menses | + | + | + | + | + |
| Use of tampons | + | + | + | + | + |
| Vaginal culture | <i>S. aureus</i> | ND | ND | ND | <i>S. aureus</i> |
| *ND — Not done | | | | | |
| **ARDS — Adult respiratory distress syndrome | | | | | |

drome manifested by non-cardiogenic pulmonary edema. Two patients had increased serum amylase values, suggesting pancreatitis. All five had transient depressions in their serum calcium levels not attributable to hypoalbuminemia. The pathogenesis of the hypocalcemia is unknown although in some patients it could be related to pancreatitis. Sterile pyuria was initially present in all of our patients and suggests transient tubulo-interstitial inflammation. The multiple abnormalities found in our patients strongly support the notion that a circulating toxin is responsible for the widespread organ involvement. Search for a toxin or toxins is being actively pursued. Some investigators have

described pyrogenic and epidermal exotoxins from staphylococci isolated from cases of TSS.^{1,6} No toxins, however, have been discovered that can account for all the multisystem abnormalities.⁷

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The Physician and Spouse

II. Happiness, Marriage, and Family Life

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ABSTRACT Happiness is primarily derived from relationships with others. Of special importance are relationships with parents, spouses and children. Growing up in a happy home sets the stage for the creation of a happy relationship with a spouse and a happy relationship with a spouse contributes to happy relationships with children. People who were loved as children learn to love as adults. Loving spouses are able to assume complementary roles that allow them to establish a loving, orderly environment where discipline is fair and just and where children learn to live by a belief system that has real value. In this environment, children differentiate to become persons of worth.

THE PURSUIT OF HAPPINESS

MANY self-proclaimed prophets of happiness urge us to embrace their ways. Some bestselling authors tell us that happiness is self-love, positive thinking, or choice. Modern social planners insist that material things — cars, home, vacation trips and money in the bank — bring happiness. Intellectuals would make us believe that we will be happy if we have enough education. Advertisers try to convince us that happiness is the type of beer we drink, the laxative we use, or the kind of car we drive. Finally, our culture suggests that vocational success is the one important ingredient that will bring happiness.

Some years ago one of us (WPW) wrote an article called, "Alexander's (The Great) Syndrome."¹ This article related the story of a physician friend who, in his 40s, had education, a loving wife, beautiful children, friends, acclaim, academic rank and security; yet he saw life as a "drag." He had what the existentialists would call a "despair of meaning." *The British Medical Journal* made this article the subject of an editorial, and as a result letters were received from physicians all over the world who wanted someone to know that they too had suffered this same despair.

It would seem then that if there is a formula for happiness its ingredients are not always the things that society considers important. People who have all the things that seem desirable are still looking for happiness. In their search they are often deluded by those who stridently proclaim that unhappiness is the result of being unfulfilled — and that to be fulfilled, one must have "freedom." It follows, then, that if one is to achieve happiness a drastic change in lifestyle may be necessary. In many instances, the dissolution of marriage is frequently chosen.

What, then, does bring happiness? Our answer to this question contains six ingredients. Only one of these is material; the other five are relational. These ingredients are:^{2,3}

1. To have been brought up in a happy home.
2. To have a satisfying marriage.
3. To have well-adjusted children who love you.
4. To have at least a few close friends.

5. To have a strong religious faith.

6. To achieve vocational success, with its attendant material rewards, prestige and security.

In our first presentation⁴ we noted that the majority of physicians have been raised in happy homes, have friends, and have achieved vocational success. They are, however, subject to greater stresses and strains in their marriages and family lives than most other professionals. It is, therefore, important that we now inquire into those things that lead to these two ingredients of happiness: a satisfying marriage and loving, well-adjusted children. If in the process we can strengthen our marriages and improve our family life, we can then serve as teachers and role models in a society that badly needs examples of happy family life among its leaders.

THE IMPORTANCE OF THE NURTURING ENVIRONMENT

A psychiatrist at Howard University⁵ believes that the biggest problem in the black world today is the instability of the nuclear family. Writing in *Ebony*, she states that every aspect of the problem has come about because of deviations from what is regarded as traditional family structure. Her solution is for black families to return to a structure that is traditional. Other studies support her conclusions, for data collected in studies of behavioral disturbances suggest that all of them are due, at least in part, to defects in family structure. Normal, well-adjusted people come from homes

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that have traditional family structure.³

Although this nation has a Christian heritage, the Judeo-Christian value system has been seriously challenged by those who consider marriage and family as archaic forms which produce unhappiness.⁶ If, however, we examine their teachings as well as those of other religious systems, we find that many do not give women and children equal status with men.

In contrast, Jews and Christians while recognizing a difference in roles have nevertheless seen both men and women as equal as created by God.⁷ Marriage and family life, therefore, where an egalitarian relationship exists, is considered to be an important source of happiness.

Although much of our tradition concerning marital relationships and the roles of the partners is derived from the Mosaic Law, there was in the New Testament a movement away from a relationship in which all authority was vested in the husband to one in which both share in the authority. Thus the unique contributions and responsibilities of each are recognized in the marital relationship while at the same time the sharing of authority is emphasized.

Homes where husbands and wives fulfill their primary roles lovingly and joyfully (regardless of how many secondary roles they may also assume) are, almost without exception, stable, happy homes; and we have already stated our opinion — which is backed by others^{2,8} — that being raised in such a home is one of the important ingredients of happiness. People who come from happy homes usually establish happy homes themselves.⁸ On the other hand, many behavior problems, much neurosis, and many unhappy marriages are directly attributable to a childhood spent in a home where the parents — whether living together or separated — did not love each other.

Only when parents love each other unconditionally are they free to love their children unconditionally — and unconditional love is the only kind of love that is appropriate for the developing child. Children

need to be loved just because they *are* with all their virtues and faults. Those who grow up in a home where they are loved unconditionally will usually develop into mature adults who have high self-esteem, who can form lasting relationships with other people, and who will make good marriage partners.

ATTITUDES AND ATTRIBUTES OF A GOOD MARRIAGE PARTNER

What is a good marriage partner? What are the attitudes and personality attributes that contribute to a successful marriage?

Emotional Maturity

First and most important, we believe, is emotional maturity. Landis and Landis⁸ have described mature people as follows:

- (1) They have an understanding of human motivations. Mature people are able to recognize that their behavior, as well as the behavior of others, is the result of personality factors and inner motivations. They recognize, for instance, that domineering and controlling behavior may be produced by feelings of inadequacy and insecurity; that drinking and taking drugs often represent efforts to escape from problems the person cannot cope with; that gossip and criticism are motivated by a desire to build one's self up, to quell self-doubt.
- (2) They can think independently. Mature people profit by what they have learned in the past and make decisions based on their own knowledge and experience — not on a need to conform to their peers or to rebel against authority.
- (3) They take responsibility for their mistakes instead of "passing the buck." They are aware of their own weaknesses, and when they make mistakes they try to learn from them.
- (4) They have a sense of proportion about present desires

and future goals. They are able to recognize that they must make some sacrifices in the present if they are to earn rewards in the future. If they want vocational achievement, they must work to acquire the necessary training. If they want happy marriages, they must invest time, thought and effort to keep them growing.

- (5) They are willing to sacrifice for others. Marriage and family life are cooperative ventures, and the people involved have to make sacrifices for each other, including sometimes doing what the other wants to do for their best interests. Family members exchange services, love, support, comfort, time, energy and material possessions. Mature people are able to give as well as to receive.
- (6) They have outgrown immature attitudes toward sex and are able to discuss the subject openly and honestly. Recognizing that sex attitudes and performance are influenced by the teachings and experiences of early life, they are willing to seek help in acquiring the mature understanding needed to manage any "hang-ups" they might have.
- (7) Finally, they can assess their own level of maturity. A mature person will not be unduly fearful of assuming responsibility, but will recognize that contracting a marriage and starting a family means assuming new responsibility and making new sacrifices. They are aware of the seriousness of such a step and are prepared to invest the time and energy necessary to achieve success.

Objectivity

Another attribute needed in a good marriage partner is objectivity. Both partners must be able to see themselves realistically and to separate their feelings from their

observations. Each must realize that the world does not focus on him or her and must be able to recognize the needs, the "rights," and the personality assets and liabilities brought to the marriage.

One of the problems most often responsible for poor marriages is low self-esteem in one or both partners. Most of the mechanisms used to compensate for low self-esteem are damaging to the marriage relationship. One mechanism is to adopt the attitude, "Since I don't deserve love, I won't seek it." Another is to *demand* love, constantly and aggressively, in order to be sure of getting it. A third is to dominate the other partner in a relationship in order to enhance one's own self-esteem. Only when individuals realize they are people of worth are they able to evaluate themselves realistically, to accept their limitations and to utilize their assets to the fullest in marriage and in life. Such self-acceptance frees them to love and be loved.

It is important especially when entering marriage to be aware of the contributions family backgrounds make to personality and value systems. To a greater or lesser extent, our values are the values we learned in our families. The way we see people of our own sex and of the opposite sex is colored by the encounters we had with parents and siblings. There is an old saying that you can take a person out of the country but you can't take the country out of the person. In the same way, people can leave home but they don't escape from their families' influence on their behavior and beliefs. Understanding the parental origins of our values and personalities helps us to appreciate the necessity for altering some of our less lovable quirks if we are to enter into a state of oneness with our marriage partners.

Clear Conceptions of Marriage and Marital Love

It is important that a person considering marriage see it for what it is — a completion of self. The Spanish philosopher Julian Marias⁹ has said that we all have a radical need for a person of the opposite sex. We were

created with this need, and marriage makes us whole at the deepest level of our being. In a real marriage, we are spiritually joined to another person. This spiritual union between two partners has been called a "total" union. But no matter what we call it, it is this relationship, more than any other human relationship, that is likely to meet our personal needs and make us complete. God and society have ordained marriage as the normal state of adult human beings. Marriage is not indispensable to happiness, but lasting happiness and fulfillment are potentially found more often within the institution of marriage than outside it.

It is also important that each marriage partner have a conception of marital love. Marriage is not a casual encounter punctuated by sexual orgasms. It is a lasting union in which the partners, accepting each other for what they are, try to reach a state of oneness — a state in which they have common goals, mutual interests, and a common philosophy to live by. Love always puts the best interests and welfare of the other person above one's own. In love, each partner does his or her best to meet the other's needs — whether material, physical, sexual, emotional or spiritual.

In the Bible, marriage is regarded as a permanent, egalitarian relationship¹⁰ in which the two individuals seek a union of their spirits, souls, and bodies, mutually submitting to each other. Divorce, except under rare circumstances, is not an alternative if both partners adhere strongly to Judeo-Christian beliefs.

INGREDIENTS OF SUCCESS IN MARRIAGE AND FAMILY LIFE

Commitment

An ideal marriage requires commitment of a special kind — not of the kind that we make in a contract, for contracts are limited in what they prescribe. Instead, the marriage commitment should be of the kind that is expected in a *covenant*. A covenant establishes a relationship that should be broken only by death — a relationship such as that exemplified in God's covenant relationship with the Israelites or in

the "blood brother" relationships entered into by American Indians. In this latter instance friends who wished to become blood brothers would cut their arms and press the bleeding wounds together, signifying that they were thereafter of the same blood and were eternally bound to each other.

If a couple approaches marriage with this type of commitment to make it work, it will work. If there is no commitment, there is no impetus for the resolution of conflicts. When couples enter marriage with the idea that they can "get out" whenever conflict occurs, separation and divorce are almost inevitable. If, on the other hand, a couple has ruled out any consideration of divorce and knows that there are no alternatives except to live in friction or resolve the conflict, they will sooner or later resolve it. Experience will teach them the importance of communicating their ideas and feelings to each other without rancor or accusation, and of *listening* and responding to each other's communications with loving ears.

Love, Trust and Order

Second only to commitment as an essential ingredient of a happy marriage is love. Love is an emotion that draws a couple into oneness. Love also creates trust, because we never want to hurt people we love; therefore, we behave toward those people in a trustworthy way.

Love in its purest form can flower only in people who are free from anger, fear, selfishness, low self-esteem, sorrow, guilt and shame. We cannot love if we are filled with negative emotions that drive us away from other people. Marital love also requires the existence of a vacuum in our lives — a vacuum that can be filled only by the love of and for a person of the opposite sex. The love that comes in to fill this vacuum enhances our complementarity, motivates cooperation, and creates a willingness to make sacrifices, and establishes an hierarchy of valued activities that makes for order.

Discipline

Discipline is an important ingredient of family structure that is often

overlooked.¹¹ Two types of discipline are necessary in a marriage. The first is self-discipline; the second is parental discipline of children. Self-discipline is learned when children are subject to parental discipline. In the period of history through which we have just passed — a period influenced by a philosophy of permissiveness — discipline has become for some a dirty word. A number of factors have contributed to this permissive attitude. Whether the change has been related to societal affluence, new educational approaches¹² or the discouragement of firm discipline¹³ is unclear.

The philosophy of permissiveness has also resulted in the relativizing of Judeo-Christian ethics — the “new morality.” Today there are fewer voices that champion morality. Many churches tend to be silent. There is little forceful support of morality and discipline — but many psychiatrists and marriage counselors are beginning to recognize the importance of both to personal happiness, to a sound marriage, and indeed to the very structure of society.

Of the three basic techniques employed by parents in disciplining their children¹⁴ two are valuable when used appropriately. The third is mentioned only to be condemned.

The first technique of discipline is *power assertion*, in which the parent uses his superior physical strength to teach internal control to the child. Applications of this technique include slapping a toddler's hand, spanking or switching an older child, and sometimes even using a belt on early adolescents. Power assertion when sparingly used by a loving parent can establish and maintain authority,¹¹ especially in the early years of life. It is a must on some occasions with almost all children. Its principal purpose is to reinforce the child's desire to respond to induction. *Induction* which is the second method, should be the primary method of discipline. It makes its appeal to the child's rationality, responsibility, and desire for maturity. Because the very young child's lack of language function and his

inability to reason deductively make him unable to profit from induction, power assertion is usually the technique most suitable early in life since it reinforces the parent's displeasure. This results in the inhibition of the child's impulsiveness. As the child matures, induction may be all that is necessary.

In the third technique of discipline — *love withdrawal* — parental affection is made contingent upon the child's conformity to parental standards. The application of this technique takes many forms. One is to ignore the child. A second is to condemn, criticize, or tease the child. A third is to embarrass him or her publicly. All of these methods have deleterious effects on the child's later life, for they create low self-esteem and a fear of rejection. The most harmful method of all, however, is for a parent to threaten to desert the child or to commit suicide.

Congruent Values

In parental discipline one of the major objectives is — or should be — to provide the child with a system of beliefs that will be of value to him.¹⁵ Hence it is that the parents possess congruent values in such areas as religion, marriage and family, sex, money and possessions, law and order, alcohol and drugs, work, education, health, use of leisure time, and citizenship. If husband and wife share a philosophy based on lasting values, conflicts will be reduced as each supports the other in his or her effort to live by these values. Marked philosophical differences in values not only give rise to major conflicts in a marriage but also make it difficult for the children to form a consistent value system of their own.⁷

Parents need to be aware that values are taught as much by example as by precept. Advice to refrain from smoking marijuana is not likely to be heeded if it is delivered by a thick-tongued parent who is drinking his or her fourth or fifth highball of the evening. A girl will probably ignore her father's warning against “sleeping around” if she knows he is having an affair with his secretary. A mother cannot expect

her son to value neatness if her own house is a shambles. Parents who consistently drive without regard for the speed limit, or who “fudge” on their income tax return, cannot expect their children to respect the law.

A Positive Faith

While it is possible to have a reasonably happy marriage and rear well-adjusted children without belief in God, parents who believe in God have a definite edge over those who do not. Recent studies of sexual adjustment led to the surprising discovery that women with faith find their sex life more satisfying than those with none.¹⁶ According to Landis and Landis,⁸ marital failure is three times more common among people with no religious affiliation than among those within religions. It is true that excessively controlling religious faiths do tend to have a disruptive influence in a family, as do differences in religious beliefs between parents. There is, however, much truth in the cliché that the family that prays together stays together — for the most part, more happily and amicably than most.

A positive religious faith impels a person “to behave toward others according to standards based on respect for others and acceptance of them as individuals of as much worth as himself.” This behavior is in direct contrast to that of the egocentric person who always believes that he is right and that the other person should give in to him because that person's best interest and welfare are not important. It is obvious that the former individual is likely “to be capable of more satisfactory relationships and hence a better risk as a marriage partner.”⁸

Parents with the kind of faith that can be “caught” by their children are able to provide those children with a value system that prepares them for relating to others, both inside and outside marriage, and for handling the stresses of life that inevitably come in the common ventures of birth, marriage, work and death.

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PHYSICAL SIGNS OF TUBERCLES

With the exception of some very rare cases, tubercles first make their appearance in the summit of the lungs. It is in this place, therefore, that we must seek them. The earliest signs usually show themselves below the clavicle. Small tubercles, separated from one another by portions of healthy lung, cannot be recognized. But at this period of their progress, the health is commonly still good, and the cough too slight to induce the patient to consult a medical man. — Laënnec, R.-T.-H., *A Treatise on the Diseases of the Chest and on Mediate Auscultation*.

Signs of the accumulation of crude or miliary tubercles. When miliary tubercles are accumulated in great numbers in the upper portion of the lungs, the sound resulting from percussion of the clavicles becomes less, and is usually unequal. The right lung being in general the earliest and most severely affected, the defect of resonance is almost always on the right side. This deficiency of sound extends sometimes lower the upper and fore parts of the chest as low as the fourth rib. These, indeed, are the only parts of the chest where the mere accumulation of tubercles can give rise to this phenomenon; if we except the interscapular region, in which we sometimes find a deficiency of sound, owing to the great accumulation of tubercles at the roots of the lungs and in the bronchial glands. When the sign just mentioned exists, and even where it is wanting, a diffused bronchophonism, more or less marked, is perceived beneath the clavicle, over the infraspinal fossa of the scapula, and in the axilla. We must, however, disregard this last sign, if it is perceived only about the inner and upper angle of the scapula, on account of the vicinity of the bronchia. — Laënnec, R.-T.-H., *A Treatise on the Diseases of the Chest and on Mediate Auscultation*.

Signs of the softening of the tubercles. When the tubercles begin to soften, the same signs continue; and in addition to these, the cough gives rise to a kind of gurgling, as if the matter that produced it were thick, and agitated *en masse*. The gurgling, however, soon becomes more liquid and more like the mucous rattle; and the cough, transformed to *cavernous*, indicates the formation of a pulmonary excavation. In proportion as this empties itself, the respiration also assumes the cavernous character, and together with the cough, points out the increasing extent of the cavity. The diffused bronchophonism then gives way to pectoriloquism, which is at first imperfect, and frequently interrupted, but gradually becomes more distinct. — Laënnec, R.-T.-H., *A Treatise on the Diseases of the Chest and on Mediate Auscultation*.

Signs of the complete discharge of tuberculous matter. When a tuberculous excavation is completely empty, this state is clearly indicated by the cavernous respiration and cough. In most cases the cavernous rattle is no longer heard; and if it sometimes takes place, owing to a secretion going on from the walls of the cavity, it is only temporarily, and frequently disappears for several hours, after the patient has expectorated. At this period, and often long before this pectoriloquism becomes quite perfect. — Laënnec, R.-T.-H., *A Treatise on the Diseases of the Chest and on Mediate Auscultation*.

Toxic Encounters of the Dangerous Kind

ACETAMINOPHEN POISONING

Acetaminophen (Tempra, Tylenol, Datril Nebs, etc.) now comprises 25%-29% of the over-the-counter antipyretic/analgesic market in the U.S. In Great Britain this drug is commonly used for attempted suicide and is a major cause of fulminant liver failure. In the U.S. more and more people are overdosing with acetaminophen accidentally or purposely.

The toxic dose in adults is 140 mg/kg; the toxic dose in preschool children is unknown and at this time (for reasons unknown) the drug is considered generally less toxic for small children with overdose. Anyone over the age of 9 or 10 years who ingests 10 grams at one time is in potential danger and this danger increases as the acute oral dose increases. Hepatotoxicity is the most significant manifestation of acetaminophen overdose.

The diagnosis should be made by the history of ingestion and an acetamin-

ophen blood level (if available) obtained 4 hours or more post-ingestion because the clinical features of this poisoning are too non-specific. This value should be plotted on a nomogram (supplied free by McNeil Consumer Product Company) and appropriate treatment instituted, i.e., empty the stomach by emesis or lavage and administer the antidote (if indicated) — N-acetylcysteine (Mucomyst). The antidote should be administered in the first 24 hours post-ingestion to be effective. N-acetylcysteine has not been approved by the FDA for use as an antidote in the poisoning; supervision can be obtained by calling the Rocky Mountain Poison Center toll-free 800-525-6115.

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NORTH CAROLINA MEDICAL CURIOSITIES

INTRODUCTION

For several issues, the NORTH CAROLINA MEDICAL JOURNAL will present descriptions of medical curiosities observed within our borders. Some of these people have become almost legendary. Those of you interested in learning more about them and about medical curiosities in general may find the following volumes of interest.

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J.H.F.

THE HEAVIEST MAN ON RECORD

Although Robert Earl Hughs, at 1,069 pounds, is the heaviest medically authenticated human being, very likely a North Carolinian named Johnny Alea was the greatest heavyweight of all time. He reputedly achieved the spectacular weight of 1,132 pounds.

Alea was born in Carbon (now Carabonton), North Carolina, in 1853. Although a heavy child, his weight was not abnormal. In his 10th year, however, he began to eat at an exceptional rate and his weight zoomed. In five years he had grown so large that he was unable to pass through the front door of his house. His upper thigh was said to be so huge that an adult had difficulty getting two arms around it.

The "Fat Man" sat in a special chair built to support his great weight. He was so heavy he

could not rise to his feet without help. It was hard for him to move around at all. To walk to a table 15 feet away required a quarter of an hour and it then took him quite a while to recover from the exertion.

Alee's house stood on a hillside and part of the structure rested on logs eight feet off the ground. He continued to get heavier while the floor of his house did not get any stronger. One day in 1887 he was walking over the log-supported floor when he crashed through to his arm pits. Friends rushed to help, but before they could lift him back up he stopped breathing. It was the opinion of the physicians who examined Alee that his death was caused by heart failure brought on by fright. Reportedly, coal company scales were used to ascertain his weight at death.

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Since 1916, Saint Albans Psychiatric Hospital has been building on a tradition of quality care for adults and adolescents. A private, nonprofit hospital, Saint Albans is dedicated to meeting the unique needs of each patient.

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Editorials

PRIMARY CARE IN LOCAL HEALTH DEPARTMENTS

Our era is struggling for a name, uncertain in its selection and uncomfortable about the decisions history will render about us. As governments seek to define and fulfill their functions and have difficulty distinguishing the permanent from the transient, we are told that we live in a post-industrial society, in the Atomic Age and the computer era, that our natural resources are running out and that our ever-increasing needs must be anticipated and be met by planning for both personal and civil needs. The government responsible for all this has been aptly called "The Therapeutic State"¹ wherein as representative of the people it assumes, often without consulting us, that it best knows what is good for us and can take such responsibility as a part of its obligation to maintain the general welfare.

As our therapeutic state struggles we must expect jurisdictional agonies. Who is responsible for what? Nation, state or municipality? How is the public to be informed and how are the people to decide wisely, particularly when fewer and fewer of us are voting in primary and general elections? The magnitude of the problem can perhaps be best measured by weighing each issue of the Federal Register and comparing total annual weights for the last decade.

It is appropriate to consider the analysis offered in this issue of the *Journal* by Kaluzny and his group (p 167) of recent efforts to approach the problem of health care through local health departments in North Carolina. Our state has been a pioneer in providing such care and in fact Robeson County had the first rural county health department in this country headed by a physician.² How better to satisfy "substantial unmet need" than through these units? So in 1977 the General Assembly allocated funds for the provision of such services only to find a somewhat unsympathetic North Carolina Medical Society. Kaluzny and his colleagues have reviewed these events to show why this attempt failed to enlist the support of the state society. As might be suspected, physicians familiar with the work of their local departments were more sympathetic and those less knowledgeable more hesitant — suggesting that advocates of the measure had not been active enough at the hustings. On the other hand the program may have been deficient in structure and inappropriate in its potential application. Or perhaps advocates and detractors had not found a common ground for successful planning.

That there still exists some confusion is confirmed by their assertion that "it was clear . . . that substantial unmet needs remained" in "improved access to primary health care services." That it was clear implies an authority aware of many aspects of problems but who has not identified them for enough of us. Access to services is a bit like a loading dock; even if the goods are there, they must be picked up for delivery. If this be so, how much more unmet need might actually be created by such a system? Opponents may have also wondered how the program was to be evaluated. After all, some of the needs might be more apparent than real depending on the attitude of deliverers or recipients. What sort of cost-benefit analyses were to be done and when were they to be carried out? What provisions were to be made if the program proved unsuccessful? How would success be defined?

Bosk³ has recently emphasized that patient management is an exercise in the application of occupational rituals. Since these rituals are dictated by cultural and societal needs, the program might have been better conceived had more attention been given to these aspects. In a sense, the population of North Carolina has been redefined as a patient and attention to these elements is really essential. If we are to be citizens in a therapeutic state, health care implies something quite different from the treatment of the diseased patient or even from group therapy.

When faced with problems, clinicians are concerned primarily with three phases: managing uncertainties, making therapeutic decisions, and evaluating outcomes.³ Hesitant and uncertain about an uncertain program, the society's executive council wisely sought more data before making a decision, realizing that postponing is itself sometimes a decision. Workable rituals have not evolved in our therapeutic state, but when they do they must include provisions for evaluating results and for recognizing that some programs no matter how nobly conceived may be improved or even fail.

J.H.F.

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TAKING THE CURE

It is somewhat ironic that the time of decision for our society concerning the providing of primary medical care by our county health departments should have coincided roughly with the closing of the Western North Carolina Hospital at Black Mountain in March 1980. Without the participation of the state of North Carolina in the care of patients, the control of tuberculosis in the Old North State would have been different indeed. Our first sanatorium was established in 1908 at McCain in Hoke county; nearly three decades were to elapse before hospital beds were to be made available in western North Carolina when a second facility was opened at Black Mountain in November 1937. One year later despite nine county sanatoriums with 575 beds, McCain and Black Mountain, the state still had fewer than one patient bed for each annual death from tuberculosis.¹ The situation gradually improved with the addition of sanatoriums in Wilson in 1942 and in Chapel Hill in 1953, but dramatic change had to await the introduction of streptomycin.

Now all state and county units except McCain are closed, tuberculosis is relatively rare and the unwary physician might assume that a victory has been won. Hardly a victory, but at least a small triumph! As Scott illustrates this month in the *Journal*, the management of tuberculous outpatients in North Carolina is considerably less than ideal. Because we deal with it less frequently, tuberculosis is suspected less often and is allowed to continue its course uninterrupted by the therapy now so effective. But the white plague has always been a deceiver, masquerading as almost any process we care to name, attacking meninges, lymph nodes, lungs, pericardium, bones and joints, liver, adrenals, larynx, genitourinary tract and bowel, a recent patient with ileocecal disease suspected clinically waiting 50 years for bacteriological confirmation of the diagnosis.² Usually a lingering invader, a subtle pathogen, the acid-fast organism may also multiply so exuberantly that even our potent drugs fail to arrest the process.

Slavin and his colleagues³ have recently compared late generalized tuberculosis as it presented in 60 patients before antibiotics (1937-1949) and in 40 the present era (1949-1959). Among the former, pulmonary and neurologic involvement was much more frequent and weight loss and fever were more common. Disease is now more likely to be seen in the elderly; before 1949, 82% (49/60) of patients were less than 60 years of age, while half in the antibiotic era were over 60. Tuberculosis was the predominant disease process in 73% of the early group and in only 28% of later subjects, so that tuberculosis today might almost be considered a disease of medical progress. Given the changing nature of the process as it presents itself, it is apparent that chest films, spinal taps and skin tests, though valuable, are not as useful diagnostically as they once were. But 97 of Slavin's 100 cases had hepatic granulomata at autopsy, so that liver biopsy should be carefully considered when tuberculosis is suspected. Bone marrow culture, once highly esteemed, proved, however, of limited value. In keeping with these observations is a recent report of tuberculosis in a nursing home,⁴ pointing out yet again that the elderly and the debilitated are more susceptible to the disease. So let us not forget nurses, technicians, patients on dialysis or who are receiving immunosuppressive therapy and physicians because we are all more likely to contract tuberculosis.

If no obituary can be written for consumption, one can be written for the way of life it required before antibiotics. Gone are the testimonials that salubrious mountain air was ultimately curative. Gone too are prolonged bedrest with shoulders braced by sandbags to restrict movement, collapse therapy — pneumothorax, pneumoperitoneum and thoracoplasty — the mid-afternoon siesta and the notions that the disease lent a particular artistic intensity to its victims — Keats, George Sand, Henry Fielding, the Brontes and many others. Gone too are the cold porches and the x-ray conferences of such importance to staff and patients. Reading Thomas Mann's *The Magic Mountain*, a tale of a tuberculosis sanatorium in Switzerland before World War I (and things changed little thereafter until 1949), is like entering another world where time has no meaning and where learning to take the cure — bedrest and patience — with its implications of conferring superiority over the healthy folk from the flat lands was a near necessity.

At the time of the changing of the therapeutic guard there were "old" phthisiologists who were reluctant to use the new drugs, fearful that the disease would flare up more violently thereafter and perhaps threatened by therapies which would destroy their medical world. If anyone then would have predicted the demise of the sanatorium system and the effectiveness of short term or outpatient therapy, he would have been labeled a pariah and been run out of town. Now pulsed therapy seems to be the treatment of choice in uncomplicated cases. Isoniazid 300 mg and rifampin 600 mg are given daily by mouth for one month; then they are given twice weekly in doses of 15

mg/kg and 600 mg respectively for eight months.⁵ Thus this program seems to induce more rapid sputum conversion (80% within two months) and fewer reactions or failures of therapy. From the standpoint of cost-benefit and need, we can only note that daily rifampin for nine months would cost about \$400, while 99 doses under the "pulsed" program about \$150. Therapy of course must be supervised carefully because compliance will certainly be less in clinics than in hospitals, but this program is simple, cheap and effective.

Perhaps the moral of the tale at least when we consider the state in medicine is that the problem of tuberculosis was obvious. Patients with an extremely serious disease had to be treated and the apprehensive well protected. The target was visible to everyone in the form of a sick friend, relative or neighbor. When we get mixed up between healing and preventing in

this age, it does not seem to be as simple as it once was. But there may be a niche varying in size and depending on circumstance for primary care facilities in public health programs. It worked well for tuberculous patients and still will for them and others as long as we have a clear perception of what we seek, an accurate method for assessing results and flexibility allowing the appropriate modification when the need for change becomes apparent.

J.H.F.

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By Karen Zupko, Director
Department of Practice Management
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Right now you probably have a patient who's wondering:

- why your medical assistant asked for his symptoms on the phone when all he wanted was a simple appointment.
- *exactly* what a physician in your specialty does.
- why her "other doctor" doesn't schedule appointments six months in advance.
- if your assistant is going to ask him to pay now for today's visit.
- if she should call you at home if the baby is sick at 8 p.m.

Whether you're a solo family practitioner or a specialist in a group practice, you'll find that a patient information booklet is a good way to answer these and other questions your patients have. It's an effective way to communicate and consider the benefits:

1. You can let patients know what to expect from you and your office staff *before* questions and/or problems arise. This can only improve patient relations.

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Preparing a Patient Information Booklet

phone calls by as much as 20 percent. Think of the saved staff time!

Where to Begin

First decide what areas your booklet will cover. Topics most often discussed are: specialty and philosophy of care; what to expect on a first visit if you're a specialist; appointments; telephone call backs; billing; insurance; hospital privileges; the reception room; and staff services. Some physicians also include a section on general clinical information and recommended first aid procedures. Others have added a map showing the office location. What you decide to include depends on you, your specialty, and your style of practice.

Your medical assistant and office staff may be asked questions repeatedly that you never hear, so be sure to ask them for their ideas. Also keep in mind, that the most effective patient information booklets are written using "I" or "We" and are conversational in tone. As for style, it's always a good idea to show the patient how following a policy or office routine benefits him or her. For example, it's better to say, "we ask that you call and cancel an appointment as far in advance as possible so we can give this time to another patient" than "please call and cancel an appointment if you can't make it so the doctor's valuable time isn't wasted." Booklets taking a "Thou shalt not . . ." approach are rarely effective and are most often offensive to patient-readers.

What Will It Cost?

The cost of developing a patient information booklet is small. Your "first edition" can simply be typed on a standard sheet of 8½ by 11 inch paper, which is folded in half booklet style. You can take it to a duplicating service who can mimeo the sheets for a low cost on colored paper. Later you may decide to have the booklet set in type at a local printer. We'd advise checking with several print shops for cost estimates and choosing a type face that elderly patients can easily read.

Booklet Distribution

This is the last step in implementing a patient information booklet, but it may be the most important. It's best if you or a member of your staff gives the booklet out and says: "We're sure as a new patient you have some ques-

tions about our practice that you may not have asked today. We may have answered your questions in this booklet; please *read* it, *keep* it, and *refer* to it." This is much more effective than simply having copies available in the reception room. Some patients may decide National Geographic or McCall's looks more interesting and they may never read it. Some specialists mail their booklets in advance of a first appointment, which is an especially good idea if the patient has a one-time problem. And, it is advisable to distribute the booklet to established patients when they come in for an office visit. To sum up, your patients will think the booklet is important — if *you* do.

For more details write for "Preparing a Patient Information Booklet" OP-441 and include 30¢: Order Department, American Medical Association, P.O. Box 821, Monroe, Wisconsin 53566.

North Carolina Division Of Health Services

STATEMENT ON BYSSINOSIS

Byssinosis is a recognized occupational respiratory disease associated with exposure to raw cotton dust, flax and hemp fibers. It is a disease which can be identified in both acute and chronic forms. The worker with acute byssinosis experiences a tightness of the chest occurring in the morning after a few days absence from work, usually on Mondays. As time goes on this acute reaction may last for longer periods of time. This acute form of byssinosis may be experienced by new textile workers or it may not become evident until after years of exposure. The chronic form of byssinosis found in workers after continued exposure results in chronic obstructive lung disease. At present, the association between acute byssinosis and chronic byssinosis is not clearly understood. Acute byssinosis may progress into chronic byssinosis. On the other hand there may be workers who suffer from chronic byssinosis who never had acute byssinosis.

The disease, however, has been recognized in British cotton mills since the early 1800s. Epidemiologic studies of byssinosis by Schilling and Roach in Lancashire cotton mills in the 1950s formed the basis for the first cotton dust exposure limit adopted in the United States, the 1964 ACGIH (American Conference of Governmental Industrial Hygienists) Threshold Limit Value of 1 mg/M^3 of total dust. This consensus standard was subsequently promulgated as a legal standard under the Walsh-Healey Act in 1968 and by OSHA in 1971.

Epidemiological studies conducted by Yale University and jointly by Duke University, the North Carolina Division of Health Services and Burlington Industries in the 1960s and early 1970s confirmed that byssinosis was prevalent in American cotton mills. The disease is strongly associated with exposure to airborne respirable lint-free dust raised in early steps of yarn production. It was further determined that cigarette smoking interacts with exposure to lint-free respirable cotton dust to increase the prevalence and severity of byssinosis. Low grades of cotton — presumably because of the higher trash content — produce greater quantities of respirable dust and consequently a higher incidence of byssinosis. The vertical elutriator technique for measurement of respirable cotton dust exposure developed in the Duke-DHS-Burlington study was shown to be more accurate in characterizing the prevalence and distribution of bys-

sinosis than the total dust methods used in the earlier British work on which the first standards were based.

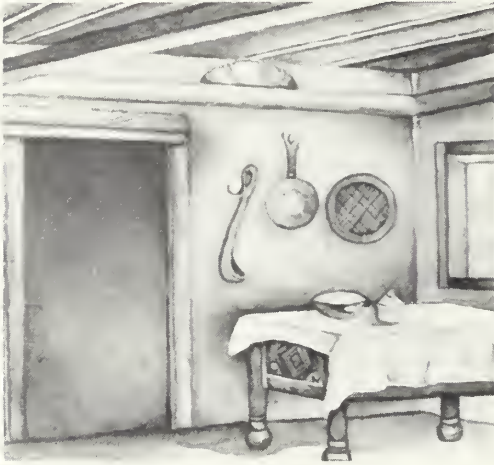
Despite the improvement in associating environmental conditions with observed morbidity, the specific agent(s) in the dust that cause(s) illness are poorly understood. Consequently, the new cotton dust exposure limits promulgated by the Occupational Safety and Health Administration (OSHA) in 1978 are based on dose-response data using vertical elutriation respirable dust ($< 15\mu$) measurements. This new standard was challenged in the federal courts but upheld in November 1979. Subsequently it was delayed, finally to be released on March 27, 1980. The Division of Health Services has long advocated the adoption of a comprehensive cotton dust standard and supports the new 1980 standard which lists permissible exposure limits of 200 micrograms per cubic meter ($\mu\text{g/M}^3$) lint-free respirable cotton dust for yarn manufacturing, $750 \mu\text{g/M}^3$ lint-free respirable cotton dust in slashing and weaving, and $500 \mu\text{g/M}^3$ lint-free respirable cotton dust for areas other than yarn manufacturing, slashing and weaving. The new standard requires periodic monitoring of dust levels, posting warning signs, respiratory protection, a written compliance program of engineering and work practice controls, education and training for employees, and pre-employment and periodic medical surveillance. Copies of this new standard may be obtained from the North Carolina Department of Labor.

The medical surveillance portion of the cotton dust standard (section h) requires a program of initial and periodic examinations for all employees exposed. The initial exam performed prior to initial assignment requires a medical history, a standardized questionnaire (contained in Appendix B of the standard), pulmonary function measurement including determination of (FVC) and (FEV_1) and the percentage that the measured values differ from the predicted values using standard values supplied in Appendix C of the standard. The tests shall be made before the employee enters the work place on the first day of the work week following at least 35 hours after the previous exposure. The tests shall be repeated from 4 to 10 hours after the beginning of the work shift. Based upon the questionnaire results, each employee shall be graded according to Schilling's byssinosis classification system.

The periodic examination provided annually shall include at least an update of the medical history and

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**See brief summary of prescribing information on
an adjoining page.**

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†In serious, life-threatening infections, oral preparations of the penicillinase-resistant penicillins should not be relied on for initial therapy.

‡Not all isolates may have been tested using both discs.

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INDICATIONS:

Although the principal indication for cloxacillin sodium is in the treatment of infections due to penicillinase-producing staphylococci, it may be used to initiate therapy in such patients in whom a staphylococcal infection is suspected. (See Important Note below.) Bacteriologic studies to determine the causative organisms and their sensitivity to cloxacillin sodium should be performed.

IMPORTANT NOTE

When it is judged necessary that treatment be initiated before definitive culture and sensitivity results are known, the choice of cloxacillin sodium should take into consideration the fact that it has been shown to be effective only in the treatment of infections caused by pneumococci, Group A beta-hemolytic streptococci, and penicillin G-resistant and penicillin G-sensitive staphylococci. If the bacteriology report later indicates the infection is due to an organism other than a penicillin G-resistant staphylococcus sensitive to cloxacillin sodium, the physician is advised to continue therapy with a drug other than cloxacillin sodium or any other penicillinase-resistant semi-synthetic penicillin.

Recent studies have reported that the percentage of staphylococcal isolates resistant to penicillin G outside the hospital is increasing, approximating the high percentage of resistant staphylococcal isolates found in the hospital. For this reason, it is recommended that a penicillinase-resistant penicillin be used as initial therapy for any suspected staphylococcal infection until culture and sensitivity results are known.

Cloxacillin sodium is a compound that acts through a mechanism similar to that of methicillin against penicillin G-resistant staphylococci. Strains of staphylococci resistant to methicillin have existed in nature and it is known that the number of these strains reported has been increasing. Such strains of staphylococci have been capable of producing serious disease, in some instances resulting in fatality. Because of this, there is concern that widespread use of the penicillinase-resistant penicillins may result in the appearance of an increasing number of staphylococcal strains which are resistant to these penicillins.

Methicillin-resistant strains are almost always resistant to all other penicillinase-resistant penicillins (cross-resistance with cephalosporin derivatives also occurs frequently). Resistance to any penicillinase-resistant penicillin should be interpreted as evidence of clinical resistance to all, in spite of the fact that minor variations in *in vitro* sensitivity may be encountered when more than one penicillinase-resistant penicillin is tested against the same strain of staphylococcus.

CONTRAINDICATIONS

A history of a previous hypersensitivity reaction to any of the penicillins is a contraindication.

WARNING

Serious and occasionally fatal hypersensitivity (anaphylactoid) reactions have been reported in patients on penicillin therapy. Although anaphylaxis is more frequent following parenteral therapy it has occurred in patients on oral penicillins. These reactions are more apt to occur in individuals with a history of sensitivity to multiple allergens.

There have been well documented reports of individuals with a history of penicillin hypersensitivity reactions who have experienced severe hypersensitivity reactions when treated with a cephalosporin. Before therapy with a penicillin, careful inquiry should be made concerning previous hypersensitivity reactions to penicillins, cephalosporins, and other allergens. If an allergic reaction occurs, the drug should be discontinued and the patient treated with the usual agents, e.g., pressor amines, antihistamines, and corticosteroids.

Safety for use in pregnancy has not been established.

PRECAUTIONS:

The possibility of the occurrence of superinfections with mycotic organisms or other pathogens should be kept in mind when using this compound, as with other antibiotics. If superinfection occurs during therapy, appropriate measures should be taken.

As with any potent drug, periodic assessment of organ system function, including renal, hepatic, and hematopoietic, should be made during long-term therapy.

ADVERSE REACTIONS:

Gastrointestinal disturbances, such as nausea, epigastric discomfort, flatulence, and loose stools, have been noted by some patients. Mildly elevated SGOT levels (less than 100 units) have been reported in a few patients for whom pretherapeutic determinations were not made. Skin rashes and allergic symptoms, including wheezing and sneezing, have occasionally been encountered. Eosinophilia, with or without overt allergic manifestations, has been noted in some patients during therapy.

USUAL DOSAGE:

Adults 250 mg q 6h

Children: 50 mg /Kg /day in equally divided doses q 6h. Children weighing more than 20 Kg. should be given the adult dose. Administer on empty stomach for maximum absorption.

N.B. INFECTIONS CAUSED BY GROUP A BETA-HEMOLYTIC STREPTOCOCCI SHOULD BE TREATED FOR AT LEAST 10 DAYS TO HELP PREVENT THE OCCURRENCE OF ACUTE RHEUMATIC FEVER OR ACUTE GLOMERULONEPHRITIS.

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standardized questionnaire and pulmonary function measurements. The periodic examination shall be provided every six months for employees in the following categories: (1) an FEV₁ of greater than 80% of predicted but with a decrement of 5% or 200 milliliter on the first work day (2) an FEV₁ of less than 80% of predicted or (3) where in the opinion of the physician, any significant change in questionnaire findings, lung function tests, or other diagnostic tests has occurred. Any employee with an FEV₁ less than 60% of predicted shall be referred to a physician for a detailed pulmonary examination.

The employer shall supply the physician with the following: (1) a copy of the regulations, (2) a description of the employee's duties as they relate to the employee's exposure, (3) the employee's exposure level, (4) a description of any personal protective equipment used and (5) information from previous medical examinations. The physician's written opinion which shall be furnished to the employee and also kept by the employer for 30 years shall contain the results of the medical examination and test, the physician's opinion as to whether the employee has any detected medical condition which would place the employee at increased risk of impairment due to further exposure, the physician's recommended limitations upon the employee's exposure to cotton dust or upon the employee's use of respirators including a determination of whether an employee can wear a negative pressure respirator and if not, a determination of the employee's ability to wear a powered air-purifying respirator and a statement that the employee has been informed by the physician of the results of the medical examination and any medical conditions in question.

Section (k) of the standard addresses recordkeeping requirements which the employer must maintain for 30 years. This requirement was recently (May 23, 1980) revised from 20 years to 30 years. The record for medical surveillance shall contain: (1) the name and social security number of the employee and job description, (2) a copy of medical examination results and physician's recommendations, (3) a copy of the physician's written opinion, (4) any employee medical complaints, (5) a copy of the standard and (6) a copy of information supplied to the physician by the employer.

It is believed that compliance with this new standard will greatly reduce the incidence of byssinosis. The standard's emphasis on prevention of byssinosis by reduction of exposure coupled with a good medical surveillance program for the early detection of illness will no doubt result in a tremendous reduction in the incidence of byssinosis among workers. In addition to medical surveillance and the reduction of cotton dust exposure, employees should also be encouraged to stop smoking or to never acquire the habit. Because of the variation in individual susceptibility there is no known threshold of exposure below which all workers will be protected. Therefore the medical surveillance program will identify and protect the sensitive work-

ers who may otherwise not be protected by reducing exposure levels to the specified levels.

In time, as byssinosis becomes more clearly understood, we hope that a legal definition of "exposure to cotton dust" will be arrived at and incorporated into the new cotton dust standard. Currently, many provisions of the standard are contingent on employee exposure to any amount of cotton dust no matter how small or infrequent with no regard to degree of risk. If an action level could be determined, then certain provisions of the standard such as periodic dust monitoring, employee education and training and medical surveillance could be revised for employees whose exposure falls below this level. A change of this nature would improve the standard as well as reduce the burden of compliance with the standard for employers who have employees at extremely low risk.

North Carolina began workers' compensation for byssinosis as an occupational illness in the early 1970s. Since that time over 1,100 men and women have filed byssinosis claims for workers' compensation. The North Carolina Industrial Commission currently relies on an Advisory Medical Committee (byssinosis panel) to diagnose and determine the impairment due to byssinosis. The use of expert panel physicians to diagnose chronic lung disease is a system that has long been used in workers compensation claims. Diagnosis by the committee based on standard diagnostic criteria is a fair and equitable method to diagnose byssinosis and to determine impairment as a result of occupational exposure. Disability, however, is determined by the Industrial Commission and is indicative of the employee's loss of earning power. The law indicates that workers who are disabled due to cotton dust exposure are entitled to compensation, but it should not be overlooked that textile workers are also subject to the same non-occupational lung diseases as the general population and, therefore, a worker with a lung disease should not be automatically assumed to have byssinosis. In an effort to expedite the time consuming process of workers compensation settlements, the governor recently convened a Brown Lung Study Committee to study the processing of byssinosis claims and to make recommendations to expedite their determination. The committee report was submitted April 10, 1980, and contained numerous recommendations in such areas as claims processing, medical reports, medical issues, apportionment and other legal issues, staffing and equipment, panel physicians, docketing, settlements, guidance to claimants and rulemaking.

One very important recommendation of the committee was that a special medical committee should be appointed to develop workable solutions to the medical issues involved in processing byssinosis claims. These issues should include definition of a standard byssinosis medical examination, diagnostic criteria, and guidelines for determination of disability. The panel was appointed and an agreement should soon be reached on the issue of diagnosing byssinosis with a recommendation for standard diagnostic criteria.

An issue to which the study committee spoke was apportionment: what is the extent of employer liability for compensation if a claimant's lung disease is due to cotton dust exposure and to other factors which are not related to the occupation? Employees contend that if cotton dust exposure has made a significant contribution to a claimant's disability, the employer's liability for compensation should not be reduced when non-work related factors have contributed to the disability. Employers contend that compensation liability should be limited by the relative contribution that the claimant's occupational exposure has made to this disability. A test of the apportionment issue was recently brought before the North Carolina Court of Appeals which ruled that totally disabled workers are entitled to full compensation if byssinosis has contributed to their inability to work, even if other factors are involved. The issue subsequently was appealed to the North Carolina Supreme Court and remains for now unsettled. Prior to the recent ruling by the appeals court, the Industrial Commission had adopted to some extent the position that employee liability is limited to the relative contribution the claimant's occupational exposure had made to his disability. Regardless of the final outcome, every effort should no doubt be made by the examining physician(s) to quantitate the relative contribution of occupational and non-occupational causes of impairment. Accumulation of this type of medical information will certainly facilitate a ruling which will be fair and reasonable to all concerned.

The diagnosis of byssinosis and determination of disability due to byssinosis is no doubt a very complex issue. Two documents have just become available,



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one written by a special Ad Hoc Committee of the North Carolina Medical Society chaired by Dr. Mario Battigelli concerning the diagnosis of byssinosis. This paper, a detailed, comprehensive statement on byssinosis and its diagnosis, can be obtained from the North Carolina Medical Society. The other, a general statement on byssinosis, was prepared by a working committee of the American Lung Association of North Carolina, chaired by Dr. H. A. Saltzman. This statement provides helpful information written in non-technical language for patients and physicians.

OSHA estimates there are currently 35,000 employed and retired United States textile workers disabled by byssinosis, including 15,000 disabled North Carolinians.

Current problems are concerned with uniform diagnosis, administration of workers' compensation, the treatment of those with the disease and the prevention of new cases of byssinosis through whatever means possible.

The basic role of public health is to assure, promote, and protect the health of the public. In keeping with this role, the North Carolina Division of Health Services has been actively involved since the late 1960s in efforts to determine the prevalence of byssinosis, to prevent byssinosis and to control cotton dust exposures. Involvement to date includes (1) a study of 500 textile workers for evidence of byssinosis, (2) participation in the Duke University, Burlington Industries, Division of Health Services byssinosis prev-

alence study, (3) conducting OSHA health compliance surveys in over half of the textile mills in the state, (4) providing industrial hygiene consultation on request to industry for evaluation (total-dust and respirable-dust surveys) and control of cotton dust exposures, and (5) providing nursing consultation to advise industry on how to initiate and maintain medical programs for the protection of workers and maintenance of their health.

The textile industry is advancing in the area of cotton dust control. Much of the new textile equipment has built-in dust control devices. A number of companies in North Carolina specialize in the manufacture and installation of cotton dust control systems.

While byssinosis may never be completely eliminated in North Carolina, progress has and is being made. A standard medical examination along with diagnostic criteria and guidelines for the determination of disability will soon be available. Workers with byssinosis will be detected and properly managed and receive compensation if indicated. Finally, the prevention of byssinosis by the control of employee exposure levels and routine medical surveillance to protect the health of the current work force can be realized.

Hugh M. Tilson, M.D., Director
Division of Health Services
Charles D. Baucom, Director
Occupational Health Branch

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James F. Emmert, Executive Director

Rex R. Taggart, M.D., Medical Director

Correspondence

PERINATAL MORTALITY

To the Editor:

We in the Division of Health Services were delighted to see the article by Dr. Rozier on perinatal mortality in the October issue of the NORTH CAROLINA MEDICAL JOURNAL. Dr. Rozier, the staff of Southeastern General Hospital and prenatal care services in Lumberton are to be congratulated for achieving a reduction in perinatal mortality over the last ten years. Especially, the hospital professional staff is to be praised for its careful case-by-case review of its mortality experience with an eye toward improving perinatal care.

Dr. Rozier identifies a group of fetal deaths during labor as salvageable and, in so doing, accepts the challenge to reduce this number in his institution. We should be encouraged that fetal deaths during labor are becoming unusual events, on the order of one or two per year in our larger institutions. Dr. Rozier identifies as an "unsolved problem" the incidence of premature labor. With modern obstetrics, cervical cerclage and chemical tocolysis are important treatments in the prevention of premature labor and delivery. Their application is becoming more widespread in our state. Of greater importance is the future development of early, comprehensive and continuous prenatal care. Sokol and his colleagues,¹ for example, report a significant reduction in prematurity and a 50% reduction in perinatal mortality associated with a multidisciplinary comprehensive prenatal care service. Thus, we are challenged to develop such ambulatory services. Prematurity and perinatal mortality can both be reduced by better prevention of unwanted pregnancy. For 1980 in North Carolina, 28.9% of all premature infants were born to mothers 19 years of age and under. Several national studies estimate that around 80% of teen pregnancies are unintended.

While we are enthusiastic about these aspects of Dr. Rozier's article, we are concerned with the ideas of

"unavoidable deaths" and "irreducible minimal fetal loss." These views may tend to discourage our efforts in prevention when greater effort is needed. First, at several institutions in North Carolina, liveborn infants weighing 750 to 1,000 grams at birth have survival rates approaching 50%. Intact survival is increasing. Thus it is difficult to characterize a fetal death with birth weight under 1,000 grams as unavoidable by the weight criterion alone. Second, lethal congenital abnormalities, particularly neural tube defects and some congenital heart defects, can be anticipated by genetic assessment and antenatal diagnosis which allow us to offer pregnancy prevention and therapeutic abortion to families who choose to use those methods. Alpha fetoprotein screening and ultrasonography are rapidly developing techniques which are being used in medical centers and made more widely available to North Carolina residents through referral.

Finally, no white fetal mortality rates for Southeastern General, for North Carolina, and for the United States are higher than those rates for whites, suggesting strongly, that underserved populations exist who do not receive enough basic perinatal care.

For these reasons the Division of Health Services is committed to increasing activities to reduce perinatal mortality, and encourage our greater mutual effort. Thank you for this opportunity to express our views on this important subject.

Richard R. Nugent, M.D.
Lead Consultant
Perinatal Care Program
Maternal and Child Health Branch
N.C. Department of Human Resources
Division of Health Services
Raleigh, N.C. 27602

Reference

1. Sokol RJ, Woolf RB, Rosen MG, Weingarden K: Risk, antepartum care, and outcome: impact of a maternity and infant care project. *Obstet Gynecol* 56:150-156, 1980.

Bulletin Board

NEW MEMBERS of the State Society

The following members have joined the North Carolina Medical Society during the month of January 1981:

ASHE-ALLEGHANY COUNTY

Lyon, Mary Elizabeth, MD, (FP) Rt. #2, Box 51-A, Sparta 28675

AVERY COUNTY

Littlejohn, Mark Hays, MD, (R) Cannon Mem. Hospital, Banner Elk 28604

COLUMBUS COUNTY

Sutherland, James Albert, Jr., MD, (OBG) Baldwin Woods, Whiteville 28472

CRAVEN-PAMLICO-JONES COUNTY

Chance, James Kenneth, MD, (OPH) 1 Wilson Point, New Bern 28560

CUMBERLAND COUNTY

Swanson, David Leonard, Jr., MD, (FP) FAHEC, 1601-B Owen Dr., Fayetteville 28306

DAVIDSON COUNTY

Busby, William Jarvis, MD, (ORS) 105 Pineywood Rd., Thomasville 27360

DURHAM-ORANGE COUNTY

Ford, Kerry, MD, (R) Duke, Dept. of Radiology, Durham 27710
Martin, Philip L., (RESIDENT) 9211 Willow Meadow, Houston, Texas 77031

FORSYTH-STOKES-DAVIE COUNTY

Austin, Wm. Elliot, MD, (GE) 511 Foxcroft Dr., Winston-Salem 27103
Mills, Stephen Alan, MD, (CDS) 3320 Paddington Lane, Winston-Salem 27106

GUILFORD COUNTY

LeBauer, Samuel Morgenstern, MD, 1519 Burlewwood Dr., Greensboro 27401
Young, Clinton D., MD, 1200 N. Elm St., Greensboro 27420

MOORE COUNTY

Southern, Edward M., MD, (OBG) 2916 Hillanbrook Dr., Kalamazoo, Mich. 49008

PITT COUNTY

Foil, Mary Beth (STUDENT) P.O. Box 514, Greenville 27834

ROCKINGHAM COUNTY

Khan, Anwaar Ahmed, MD, (1M) 829 S. Scales St., Reidsville 27320

ROWAN COUNTY

Robbiano, Dewey, MD, 1601 Brenner Avenue, Salisbury 28144

WAKE COUNTY

DiNapoli, Raphael Joseph, Jr., MD, (PH) Box 2091, Raleigh 27602
Kennedy, Willard Lee, MD, (1M) 3083 Computer Dr., Ste. 100, Raleigh 27609
Robinson, Charles Hall, Jr., MD, (OPH) 2400-F Still Forest Place, Raleigh 27607
Schaaf, Robert Edmund, MD, (R) P.O. Box 19366, Raleigh 27619
Zellinger, Michael Jay, MD, (CD) 1212 Cedarhurst Dr., Raleigh 27609

WAYNE COUNTY

Haverkamp, John, MD, (D) 1706 Evergreen Ave., Goldsboro 27530

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2. The "place" and "sponsor" are indicated for a program only when these differ from the place and source to write "for information."

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Contraindications: Further use in anuria, progressive renal or hepatic dysfunction, hyperkalemia, pre-existing elevated serum potassium. Hypersensitivity to either component or other sulfonamide-derived drugs.

Warnings: Do not use potassium supplements, dietary or otherwise, unless hypokalemia develops. Dietary intake of potassium is markedly impaired. If supplementary potassium is needed, potassium tablets should not be used. Hyperkalemia can occur, and has been associated with cardiac irregularities. It is more likely in the severely ill, with urine volume less than one liter/day, the elderly and diabetics with suspected or confirmed renal insufficiency. Periodically, serum K⁺ levels should be determined. If hyperkalemia develops, substitute a thiazide alone, restrict K⁺ intake. **Associated widened QRS complex or arrhythmia requires prompt additional therapy.** Thiazides cross the placental barrier and appear in cord blood. Use in pregnancy requires weighing anticipated benefits against possible hazards, including fetal or neonatal jaundice, throm-

bocytopenia, other adverse reactions seen in adults. Thiazides appear and triamterene may appear in breast milk. If their use is essential, the patient should stop nursing. Adequate information on use in children is not available. Sensitivity reactions may occur in patients with or without a history of allergy or bronchial asthma. Possible exacerbation or activation of systemic lupus erythematosus has been reported with thiazide diuretics.

Precautions: Do periodic serum electrolyte determinations (particularly important in patients vomiting excessively or receiving parenteral fluids). Periodic BUN and serum creatinine determinations should be made, especially in the elderly, diabetics or those with suspected or confirmed renal insufficiency. Watch for signs of impending coma in severe liver disease. If spironolactone is used concomitantly, determine serum K⁺ frequently; both can cause K⁺ retention and elevated serum K⁺. Two deaths have been reported with such concomitant therapy (in one, recommended dosage was exceeded, in the other serum electrolytes were not properly monitored). Observe regularly for possible blood dyscrasias, liver damage, other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving triamterene, and leukopenia, thrombocytopenia, agranulocytosis, and aplastic anemia have been reported with thiazides. Triamterene is a weak folic acid antagonist. Do periodic blood studies in cirrhotics with splenomegaly. Anti-hypertensive effect may be enhanced in post-sympathectomy patients. Use cautiously in surgical patients. The following may occur: transient elevated BUN or creatinine or both, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), hyperuricemia and gout, digitalis intoxication (in hypokalemia), decreasing alkali reserve with

possible metabolic acidosis. 'Dyazide' interferes with fluorescent measurement of quinidine. Hypokalemia, although uncommon, has been reported. Corrective measures should be instituted cautiously and serum potassium levels determined. Discontinue corrective measures and 'Dyazide' should laboratory values reveal elevated serum potassium. Chloride deficit may occur as well as dilutional hyponatremia. Serum PBI levels may decrease without signs of thyroid disturbance. Calcium excretion is decreased by thiazides. 'Dyazide' should be withdrawn before conducting tests for parathyroid function.

Diuretics reduce renal clearance of lithium and increase the risk of lithium toxicity.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis, rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting, diarrhea, constipation, other gastrointestinal disturbances. Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and, rarely, allergic pneumonitis have occurred with thiazides alone. Triamterene has been found in renal stones in association with other usual calculus components.

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[†]Step 1 usually consists of an initial phase (a diuretic alone), a titration phase (dosage adjustment and/or addition of a K⁺ supplement or K⁺-sparing agent) and a maintenance phase (a diuretic alone or in combination with a K⁺ supplement or K⁺-sparing agent).

Serum K⁺ and BUN should be checked periodically (see Warnings).

Before prescribing, see complete prescribing information in SK&F Co. literature or PDR. A brief summary follows:

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Inventor

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When I was a boy, I had to work overtime to get the money I needed for equipment. But somehow I eventually got what I had to have for my experiments.

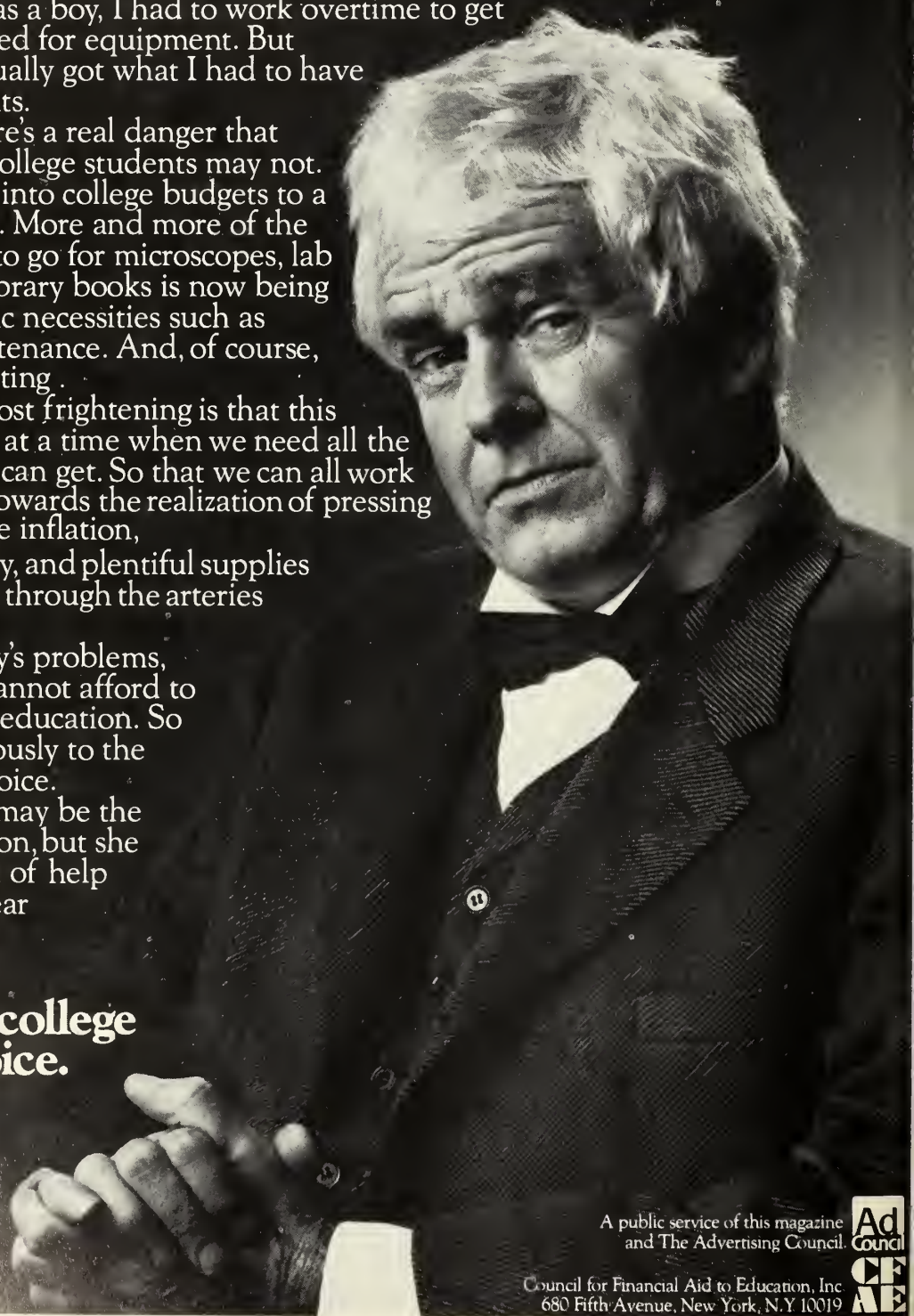
Today there's a real danger that many American college students may not. Inflation is eating into college budgets to a dangerous degree. More and more of the money that used to go for microscopes, lab equipment and library books is now being consumed by basic necessities such as heating and maintenance. And, of course, my specialty—lighting.

What is most frightening is that this squeeze is coming at a time when we need all the trained minds we can get. So that we can all work more effectively towards the realization of pressing goals: manageable inflation, revitalized industry, and plentiful supplies of energy coursing through the arteries of this country.

With today's problems, America simply cannot afford to have second-best education. So please give generously to the college of your choice.

Necessity may be the mother of invention, but she needs a great deal of help if she's going to bear children.

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March 7

"34th Annual Greensboro Academy of Medicine Symposium"
Place: Jefferson Standard Club, Greensboro
Fee: None
For Information: Timmothy W. Lane, M.D., Moses H. Cone Memorial Hospital, Greensboro 27424, (919) 379-4062

March 11

"Current Clinical Problems in Family Practice"
Place: Pitt County Memorial Hospital, Greenville
Fee: \$15
Credit: 3 hours
For Information: F. M. Simmons Patterson, M.D., Assistant Dean for Continuing Medical Education, East Carolina University School of Medicine, Greenville 27834

March 11-14

Internal Medicine 1981
Place: Berryhill Hall, UNC School of Medicine
Fee: \$150
Credit: 25 hours
For Information: William B. Wood, M.D., UNC School of Medicine, (919) 933-2118

March 16-20

5th Annual Family Medicine Review Course
Place: Bowman Gray School of Medicine
Fee: \$275
Credit: 40 hours
For Information: Emery C. Miller, M.D., Assoc. Dean for Continuing Education, Bowman Gray School of Medicine, Winston-Salem 27103

March 25-27

"Alcoholism: Biomedical Research"
Place: Carolina Inn, Chapel Hill
Fee: \$30
For Information: The Center for Alcoholism Studies, UNC School of Medicine, Chapel Hill 27514

March 26-27

Physician Extenders
Place: Bowman Gray School of Medicine
Credit: 10 hours
For Information: Emery C. Miller, M.D., Assoc. Dean for Continuing Education, Bowman Gray School of Medicine, Winston-Salem 27103

March 27-28

Frank R. Lock Symposium in Obstetrics and Gynecology
Place: Bowman Gray School of Medicine
Fee: \$150
Credit: 9 hours
For Information: Emery C. Miller, M.D., Assoc. Dean for Continuing Education, Bowman Gray School of Medicine

April 3-4

"Practical Pediatrics"
Place: Bowman Gray School of Medicine
Fee: \$50
Credit: 9 hours
For Information: Emery C. Miller, M.D., Assoc. Dean for Continuing Education, Bowman Gray School of Medicine, Winston-Salem 27103

April 4-5

"5th Annual Radiology Update"
Place: Bowman Gray School of Medicine
Fee: \$50/75
Credit: 9 hours
For Information: Emery C. Miller, M.D., Assoc. Dean for Continuing Education, Bowman Gray School of Medicine, Winston-Salem 27103

April 9 and 10

"Third Annual Health Law Forum"
Place: Pitt County Memorial Hospital, Greenville
Fee: \$100
Credit: 8.5 hours
For Information: F. M. Simmons Patterson, M.D., Assistant Dean for Continuing Medical Education, East Carolina University School of Medicine, Greenville 27834

April 22

"Drug Interactions and Reactions"
Place: Lee County Hospital
Fee: \$12
Credit: 3.5 Hours
For Information: R. S. Cline, M.D., (919) 775-2111, ext. 219

May 13-14

Respiratory Care Symposium: Breath of Spring, 1981
Place: Bowman Gray School of Medicine
Fee: \$35
Credit: 9 Hours
For Information: Emery C. Miller, M.D., Assoc. Dean for Continuing Education, Bowman Gray School of Medicine, Winston-Salem 27103

May 14-16

N.C. Chapter of American College of Surgeons
Place: Center for Continuing Education, Appalachian State
For Information: J. S. Mitchener, Jr., M.D., P.O. Box 1808, Laurinburg, N.C. 28352

May 15

"Pediatrics Day"
Place: Pitt County Memorial Hospital, Greenville
Fee: \$30
Credit: 5 hours
For Information: F. M. Simmons Patterson, M.D., Assistant Dean for Continuing Medical Education, East Carolina University School of Medicine, Greenville 27834

May 22-24

10th Annual Pediatric Pulmonary Disease
Place: Duke University Medical Center
Fee: \$50



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Precautions PREGNANCY: VERMOX has shown embryotoxic and teratogenic activity in pregnant rats at single oral doses as low as 10 mg/kg. Since VERMOX may have a risk of producing fetal damage if administered during pregnancy, it is contraindicated in pregnant women.

PEDIATRIC USE: The drug has not been extensively studied in children under two years; therefore, in the treatment of children under two years the relative benefit/risk should be considered.

Adverse Reactions Transient symptoms of abdominal pain and diarrhea have occurred in cases of massive infection and expulsion of worms.

Dosage and Administration The same dosage schedule applies to children and adults. The tablet may be chewed, swallowed or crushed and mixed with food. For the control of pinworm (enterobiasis), a single tablet is administered orally, one time.

For the control of roundworm (ascariasis), whipworm (trichuriasis), and hookworm infection, one tablet of VERMOX is administered, orally, morning and evening, on three consecutive days.

If the patient is not cured three weeks after treatment, a second course of treatment is advised. No special procedures, such as fasting or purging, are required.

* Mean cure rate of VERMOX[®] in treating whipworm; cure rate range of 61-75%. Data on file at Janssen Pharmaceutica Inc.

** Mean egg reduction of VERMOX[®] in treating whipworm; egg reduction range of 70-99%. Data on file at Janssen Pharmaceutica Inc.

† Rollo, I.M.: Drugs used in the chemotherapy of helminthiasis, in Goodman, L.S.; and Gilman, A. (eds.): *The Pharmacological Basis of Therapeutics*, ed. 5. New York, Macmillan, 1975, p. 1034.

†† Miller, M.J.; Krupp, I.M.; Little, M.D.; Santos, C.: Mebendazole an effective anthelmintic for trichuriasis and enterobiasis. *JAMA* 230 (10): 1412-1414, Dec. 9, 1974.

1. Registered trademark of Merck Sharp and Dohme.
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The items listed in the above column are for the six months immediately following the month of publication. Requests for listing should be received by "WHAT? WHEN? WHERE?", P.O. Box 27167, Raleigh 27611, by the 10th of the month prior to the month in which they are to appear. A "Request for Listing" form is available on request.

News Notes from the—

DUKE UNIVERSITY MEDICAL CENTER

The John A. Hartford Foundation has awarded a three-year fellowship to Dr. J. Scott Rankin, teaching scholar in cardiac surgery at the Duke University Medical Center. The award was made by the John A. and George L. Fellowship Program. The fellowship will help further Dr. Rankin's work in the pathophysiology of surgical heart disease, including the effects of ischemic and valvular disorders on myocardial function.

Dr. Rankin is a graduate of the School of Medicine of the University of Tennessee and has been with Duke since 1974.

* * *

A Duke University Medical Center physician, Dr. Robert McLelland, was program chairman of the American College of Radiology's National Conference on Breast Cancer, held March 9-13 in San Diego. McLelland, associate professor in the Division of Imaging, Department of Radiology, is also chairman of the ACR committee on mammography.

The conference was co-sponsored by the American Cancer Society.

* * *

The American Heart Association has selected Dr. James E. Lowe of the Duke University Medical Center as an Established Investigator. The award carries with it a \$150,000 grant to help underwrite Lowe's research interests. His research is focused on investigating the biochemical, functional, structural and electrical changes that occur when the heart is deprived of its normal supply of blood.

Lowe, who received his M.D. degree from the UCLA School of Medicine, will become assistant professor of surgery and pathology at Duke in July.

* * *

Dr. Roscoe R. (Ike) Robinson of Duke University Medical Center will become vice president for medical affairs at Vanderbilt University as of July 1. Robinson is associate vice president at the Duke University Medical Center and chief executive officer of Duke Hospital.

Robinson is also president-elect of the American Society of Nephrology, Florence McAlister Professor

of Medicine and director of the Division of Nephrology at Duke.

Dr. William G. Anlyan, vice president of health affairs of the Duke University Medical Center, said: "In his years at Duke, Ike has become an internationally renowned kidney specialist. He has done a magnificent job as chief executive officer and associate vice president of the medical center in orchestrating the operations of Duke Hospital, including the recent move to the new Duke Hospital North."

Robinson, 51, is a native of Oklahoma City and earned his M.D. degree from the University of Oklahoma in 1954. He did his internship and residency in internal medicine at Duke and then spent a year in research training at the Columbia-Presbyterian Medical Center in New York City. After three years service in the Air Force, Robinson returned to Duke in 1960. He was appointed director of the Division of Nephrology in 1962 and was promoted to professor of medicine in 1969.

Robinson is married to the former Ann Allen of Enid, Okla.

* * *

Drs. Seymour Grufferman and Robert Rosati have

been awarded a three-year, \$650,000 grant from the Mellon Foundation to develop a clinical epidemiology program at the Duke University Medical Center. The clinical program to be developed will include career M.D.s and Ph.D.s who will work closely with practicing doctors and who will be supported by a corps of new Duke faculty recruited and trained during the grant period. The faculty members will be trained and experienced in the use of such traditional tools of the epidemiologist as computer science, biostatistics, medical sciences and bioengineering.

* * *

Three seniors at the Duke University School of Medicine will gain clinical experience in African nations this spring as participants in a fellowship program operated jointly by the Medical Assistance Program of Wheaton, Ill., and Reader's Digest International Fellowships.

The MAP-RDIF works with mission organizations offering medical students the opportunity to gain clinical experience in relatively primitive areas.

The Duke students are among 40 fellows nationwide and will return to Durham in time to graduate with their class in May.

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Fellowship Hall will arrange connections with commercial transportation.

The students are: Robert Campbell, who will work in the Niger Republic; Steven Schwartz, who will work in Kenya; and Chad Stevens, who will work in Zaire.

* * *

Irwin Fridovich was awarded an honorary degree from l'Université René Descartes in Paris on Dec. 6 for the body of his work in biochemical research. Fridovich, James B. Duke Professor of Biochemistry with the Duke University Medical Center, was given the Docteur Honoris Causa. He is widely known for his work with antioxidants, drugs being investigated as possible weapons against a number of inflammatory disorders.

* * *

Anyone requiring emergency help with scuba diving accidents may receive information 24 hours a day by dialing 1-919-684-8111 and asking for "DAN," or the Diving Accident Network. The network has been established by the F. G. Hall Laboratory for Environmental Research of the Duke University Medical Center.

Dr. Peter Bennett, director of the Hall Laboratory, is administering DAN for two years under a \$131,000 grant from the National Oceanic and Atmospheric Administration (NOAA). Bennett is a professor in the Department of Anesthesiology at Duke, and his lab is widely known for its record setting simulated dives in its hyperbaric (high pressure) chamber.

Persons calling the above number will be connected to one of the trained, experienced physicians on call at the Hall Lab. The physician at Duke will then tell the caller where the nearest source of medical personnel and equipment is. In addition to the Hall Laboratory, which serves as the southeastern center for the network, there are regional centers in the states of Pennsylvania, Wisconsin, Texas/Louisiana, Washington, California and Hawaii. Each has a recompression chamber operated by trained technicians and a medical person on call around the clock.

Dr. John Miller, associate professor of anesthesiology at Duke, is the medical director of the two-year project.

News Notes from the—

**BOWMAN GRAY SCHOOL
OF MEDICINE**

WAKE FOREST UNIVERSITY

Researchers at the Bowman Gray School of Medicine have shown that a hormone discovered last year at the school can cause high blood pressure.

And they have uncovered one way in which the hormone works to increase blood pressure.

In a scientific paper presented to a meeting of the Southern Section of the American Federation for Clinical Research, the researchers reported that injection of the hormone, called endoxin, into research animals causes a significant and long lasting increase in blood pressure.

The research team included Walter C. Plunkett, a graduate student in physiology; Dr. Phillip M. Hutchins, associate professor of physiology; Dr. Kenneth A. Gruber, research assistant professor of medicine; and Dr. Vardaman M. Buckalew, professor of medicine and physiology.

The research was funded primarily by the North Carolina Heart Association.

Endoxin was injected in small amounts into rats which ordinarily have normal blood pressure. The hormone caused a rise in the rats' blood pressure, reaching its peak within an hour and remaining abnormally high for an hour and a half.

To determine how endoxin works, they examined its effects on microscopic blood vessels of the kind in which blood pressure is regulated. The researchers wanted to know if endoxin would make the vessel walls more sensitive to vasoconstrictors. Indeed, that is what they found, providing one explanation for how endoxin can cause blood pressure to rise.

Endoxin is a shortened form of endogenous digoxin, meaning that the hormone is made in the body and is structurally similar to man-made digoxin.

Additional research is currently taking place at Bowman Gray to further identify endoxin's possible role in primate high blood pressure.

* * *

Dr. Byron D. McLees has been appointed professor of medicine and head of Bowman Gray's Section on Pulmonary Medicine.

He succeeds Dr. Ross L. McLean, who has returned to fulltime teaching and patient care.

McLees comes to Bowman Gray from the National Institutes of Health, where he was chief of the Department of Critical Care Medicine in the Clinical Center. While at NIH, he provided medical care to several Brazilian government and military leaders, and for that he was awarded the Brazilian Peace Prize in 1980.

McLees holds the B.S. and M.S. degrees in chemistry from the University of Arkansas, and the Ph.D. degree in physiological chemistry from Johns Hopkins University. He earned the M.D. degree from Duke University, and took both internship and residency training at Duke University Medical Center.

* * *

Four new assistant professors have been appointed to Bowman Gray's fulltime faculty. They are Dr. Donald R. Koritnik, comparative medicine; Dr. Thomas J. Poulton, anesthesia (intensive care unit); Dr. Peter W. Robie, medicine (endocrinology and general medicine); and Dr. Charles E. Weland, obstetrics and gynecology.

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is the presenting
symptom...**

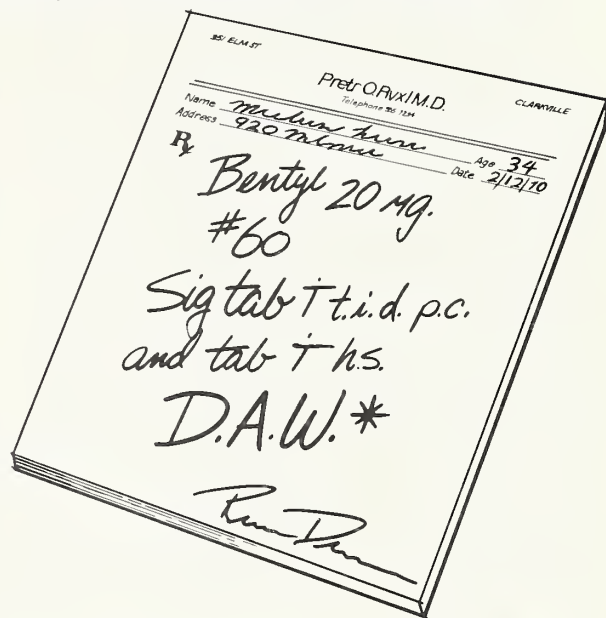


...in the functional bowel/irritable bowel syndrome[†]

be sure to specify

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10 mg. capsules, 20 mg. tablets,
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**D.A.W.-Dispense as written*

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- ⊕ Pharmacologic effect in the distal colon compared to placebo^{††} shows how Bentyl affects abnormal motor activity in the irritable colon patient.[†]

[†]This drug has been classified "probably" effective for this indication.

Merrell

^{††} In the experiments that showed significant pharmacologic effect, the dose of Bentyl used was 50 mg. I.M., which is higher than that permitted in the labeling. This dose was deemed justified since the recommended daily dose of injectable Bentyl is 20 mg. (2 ml.) every 4 to 6 hours. Thus, in 8 hours, a patient could receive a total of 60 mg. I.M. and at that time, as a result of the sustained plasma levels from the 20 mg. injections at 0 and 4 hours, might show an even higher plasma level that occurs after a single 50 mg. I.M. dose. Presumably, the same pharmacologic effect would follow. These observations do not constitute evidence of efficacy.

Bentyl®

(dicyclomine hydrochloride USP)

Capsules, Tablets, Syrup, Injection
AVAILABLE ONLY ON PRESCRIPTION
Brief Summary

INDICATIONS

Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the following indications as "probably" effective:

For the treatment of functional bowel/irritable bowel syndrome (irritable colon, spastic colon, mucous colitis) and acute enterocolitis.

THESE FUNCTIONAL DISORDERS ARE OFTEN RELIEVED BY VARYING COMBINATIONS OF SEATIVE, REASSURANCE, PHYSICIAN INTEREST, AMELIORATION OF ENVIRONMENTAL FACTORS.

For use in the treatment of infant colic (syrup).

Final classification of the less-than-effective indications requires further investigation.

CONTRAINDICATIONS: Obstructive uropathy (for example, bladder neck obstruction due to prostatic hypertrophy); obstructive disease of the gastrointestinal tract (as in achalasia, pyloroduodenal stenosis); paralytic ileus, intestinal atony of the elderly or debilitated patient, unstable cardiovascular status in acute hemorrhage; severe ulcerative colitis; toxic megacolon complicating ulcerative colitis; myasthenia gravis.

WARNINGS: In the presence of a high environmental temperature, heat prostration can occur with drug use (fever and heat stroke due to decreased sweating). Diarrhea may be an early symptom of incomplete intestinal obstruction, especially in patients with ileostomy or colostomy. In this instance treatment with this drug would be inappropriate and possibly harmful. Bentyl may produce drowsiness or blurred vision. In this event, the patient should be warned not to engage in activities requiring mental alertness such as operating a motor vehicle or other machinery or perform hazardous work while taking this drug. There are rare reports of infants, 6 weeks of age and under, administered dicyclomine hydrochloride syrup, who have evidenced respiratory symptoms (breathing difficulty, shortness of breath, breathlessness, respiratory collapse, apnea), as well as seizures, syncope, asphyxia, pulse rate fluctuations, muscular hypotonia, and coma. The above symptoms have occurred within minutes of ingestion and lasted 20 to 30 minutes. The timing and nature of the reactions suggest that they were a consequence of local irritation and/or aspiration rather than a direct pharmacologic effect. No known deaths or permanent adverse effects have been reported. Bentyl syrup should be used with caution in this age group.

PRECAUTIONS: Although studies have failed to demonstrate adverse effects of dicyclomine hydrochloride in glaucoma or in patients with prostatic hypertrophy, it should be prescribed with caution in patients known to have or suspected of having glaucoma or prostatic hypertrophy.

Use with caution in patients with:

Autonomic neuropathy. Hepatic or renal disease. Ulcerative colitis. Large doses may suppress intestinal motility to the point of producing a paralytic ileus and the use of this drug may precipitate or aggravate the serious complication of toxic megacolon.

Hyperthyroidism, coronary heart disease, congestive heart failure, cardiac arrhythmias, and hypertension.

Hiatal hernia associated with reflux esophagitis since anticholinergic drugs may aggravate this condition.

Do not rely on the use of the drug in the presence of complication of biliary tract disease. Investigate any tachycardia before giving anticholinergic (atropine-like) drugs since they may increase the heart rate. With overdosage, a curare-like action may occur.

ADVERSE REACTIONS: Anticholinergics/antispasmodics produce certain effects which may be physiologic or toxic depending upon the individual patient's response. The physician must delineate these. Adverse reactions may include xerostomia, urinary hesitancy and retention; blurred vision and tachycardia; palpitations; mydriasis; cycloplegia; increased ocular tension; loss of taste; headache; nervousness; drowsiness; weakness; dizziness; insomnia; nausea, vomiting, impotence; suppression of lactation; constipation; bloated feeling, severe allergic reaction or drug idiosyncrasies including anaphylaxis; urticaria and other dermal manifestations; some degree of mental confusion and/or excitement, especially in elderly persons; and decreased sweating. With the injectable form there may be a temporary sensation of lightheadedness and occasionally local irritation.

DOSAGE AND ADMINISTRATION: Dosage must be adjusted to individual patient's needs.

Usual Dosage

Bentyl 10 mg. capsule and syrup: *Adults:* 1 or 2 capsules or teaspoonfuls syrup three or four times daily. *Children:* 1 capsule or teaspoonful syrup three or four times daily. *Infants:* 1/2 teaspoonful syrup three or four times daily (Dilute with equal volume of water.)

Bentyl 20 mg.: *Adults:* 1 tablet three or four times daily

Bentyl Injection: *Adults:* 2 ml. (20 mg.) every four to six hours intramuscularly only.

NOT FOR INTRAVENOUS USE.

MANAGEMENT OF OVERDOSE: The signs and symptoms of overdose are headache, nausea, vomiting, blurred vision, dilated pupils, hot, dry skin, dizziness, dryness of the mouth, difficulty in swallowing, CNS stimulation. Treatment should consist of gastric lavage, emetics, and activated charcoal. Barbiturates may be used either orally or intramuscularly for sedation but they should not be used if Bentyl with Phenobarbital has been ingested. If indicated, parenteral cholinergic agents such as Urecholine® (bethanecol chloride USP) should be used.

Product Information as of July, 1980

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Other appointments went to Dr. David W. Griffith Jr., research instructor in neurology (neurosonology); Gail S. Marion, instructor in family medicine and allied health (physician assistant program); and Dr. Mary J. Ruebush, research instructor in microbiology and immunology.

Appointed to the part-time faculty was Dr. Carole L. Browne, associate in anatomy; and Dr. D. E. Ward Jr., lecturer in community medicine.

* * *

Dr. John L. McCain of Wilson, lecturer in community medicine at the Bowman Gray School of Medicine, has been appointed to the National Council on Health Planning and Development.

The council advises the Secretary of Health and Human Services on the development of national health planning guidelines, standards and priorities; on the implementation and administration of Title XV and Title XVI of the Public Health Service Act; on health care technology and productivity; on Section 1122 (review of health facility capital expenditures) of the Social Security Act; and on termination of state or area health planning agencies.

McCain is one of four people associated with health planning agencies to be appointed to the National Council on Health Planning and Development. McCain is a member of the North Carolina Statewide Health Coordinating Committee and the Eastern Health Systems Agency.

* * *

Bowman Gray's Family Practice Center has been accredited for a three-year period by the Accreditation Association for Ambulatory Care, Inc. (AAAHCC).

The award recognizes compliance with nationally accepted standards concerning rights of patients, governance, administration, quality of care, quality assurance, medical records, surgical services, radiology services, facilities, educational activities, teaching and publication activities and research.

* * *

Dr. Julian F. Keith, professor and chairman of the Department of Family and Community Medicine, has been elected vice chairman of the Board of Directors of the Winston-Salem Industries for the Blind.

* * *

Dr. Frederick W. Kremkau, associate professor of medicine (biophysics), has been appointed to a two-year term as chairman of the Biological Effects Committee of the American Institute of Ultrasound in Medicine. He also was elected to a two-year term as chairman of the Basic Science and Instrumentation Section of the American Institute of Ultrasound in Medicine. He was appointed chairman of the subcommittee on Ultrasonics in Medicine of the Institute of Electrical and Electronics Engineers, and was elected to a two-year term as advisor to the executive

board of the Society of Diagnostic Medical Sonographers.

* * *

Dr. George Podgorny, clinical professor of surgery (emergency medical services), has been appointed editor of the "Consultation in Emergency Medicine" section of *The Annals of Emergency Medicine*.

* * *

Dr. Robert W. Prichard, professor and chairman of the Department of Pathology, has been elected a member of the council of the Southeast Division of the Association of Pathology Chairmen.

* * *

Dr. Louis deS. Shaffner, professor of surgery, has been elected chairman of the board of the Forsyth County Hospital Authority.

News Notes from the

UNIVERSITY OF NORTH CAROLINA- CHAPEL HILL SCHOOL OF MEDICINE AND NORTH CAROLINA MEMORIAL HOSPITAL

Dr. Philip M. Blatt has been named director of the Comprehensive Hemophilia Diagnostic and Treatment Center in the School of Medicine.

Blatt, an associate professor of medicine and pathology, has served as associate director of the hemophilia center since it was established in 1977.

The hemophilia center is one of the world's largest, providing treatment and counseling for about 1,000 people with bleeding disorders from throughout the Southeast. It is part of the UNC-CH Center for Thrombosis and Hemostasis, headed by Dr. Harold Roberts, professor of medicine and pathology.

Blatt is a native of Harverstraw, N.Y. He earned his M.D. degree at Washington University in St. Louis and served his residency at North Carolina Memorial Hospital. Blatt served postdoctoral fellowships in hematology at the University of Utah Medical Center in Salt Lake City and the UNC-CH School of Medicine before joining the medical faculty in 1974.

* * *

A new office at the School of Medicine has been established to promote student research and assist with funding for short and long-term research projects.

The Office of Student Research and Academic Enrichment has assisted 25 students in finding the sponsorship and funds they need to participate in an academic research program, according to Dr. Arthur L. Finn, director.

Funding for short-time research projects has been made available through the National Institutes of Health and Finn hopes to have students beginning long-term projects in the fall by drawing on other available sources.

"Students interested in research projects may opt for anything that qualifies as scholarly activity, basic science or clinical, from molecular research to patient interaction," Finn said.

* * *

Three faculty members from the School of Medicine have received 1981 Junior Faculty Development awards.

The \$3,000 awards, which were given for the first time last spring, are made to faculty members in their last years in non-tenured positions.

Dr. James Mandell, assistant professor of surgery and pediatrics, was named as a recipient of an R. J. Reynolds Industries award while Dr. Douglas A. Drossman, assistant professor of medicine and psychiatry, and Dr. J. Charles Jennette, assistant professor of pathology, received Institutional Development Foundation awards.

* * *

Barry Goz, Ronald G. Thurman and Dr. Tai-Chan Peng, associate professors of pharmacology, have

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Mediterranean Conference — August 22 — September 5, 1981 aboard Mts. Danae.** Visit major cities in Italy, Greece, Egypt, Israel, Turkey, Yugoslavia.

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Both conferences are designed to conform with the 1976 Tax Reform Act.

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**Greek Registry

been awarded grants from the N.C. Alcoholism Research Authority.

* * *

Dr. John T. Sessions, professor of medicine, was an adviser for research planning to the National Institutes of Arthritis, Metabolism and Digestive Diseases Sept. 14 in Bethesda, Md.

* * *

Dr. Walter B. Green, assistant professor of orthopedic surgery and pediatrics, was guest speaker at a symposium on "Hemophilia and Related Disorders" Oct. 3-4 in Columbia, Mo.

* * *

Dr. Douglas A. Drossman, assistant professor of medicine and psychiatry, spoke on "Practical Approaches to the Management of Irritable Bowel" Oct. 20-21 in Nantucket Island, Mass.

* * *

Dr. Eugene S. Mayer, associate dean and director of the Area Health Education Centers program, attended dedication ceremonies for the new Patient Services Tower at Charlotte Memorial Hospital and Medical Center and delivered the dedication address Nov. 16.

* * *

Dr. Kenneth L. Cohen and Robert L. Peiffer, assistant professors of ophthalmology, presented a paper, "Sarcoidosis and Ocular Disease in a Young Child," at the 74th Annual Scientific Assembly Nov. 18 in San Antonio.

* * *

Dr. James H. Scatliff, chairman of radiology, presented two papers at the Southeastern Neuroradiology Society meeting Oct. 15-18 in White Sulphur Springs, W. Va.

* * *

Dr. Robert D. Langdell, professor of pathology, was re-elected to a second three-year term on the policy-making Board of Governors of the College of American Pathologists at the fall meeting held in St. Louis.

* * *

Dr. John A. Shallal, assistant professor of surgery, presented a paper titled "Hemodynamic Effect of Hypothermic-Pulsatile Cardiopulmonary Bypass" at the annual meeting of the Association for Academic Surgery, Nov. 6-8 in Birmingham.

* * *

Dr. Paul T. Frantz, assistant professor of surgery, spoke on "Clinical and Experimental Evaluation of Left Ventriculoiliac Shunt Bypass During Repair of Lesions of the Descending Thoracic Aorta" at the

CYCLAPEN-W® (cyclacillin)

Indications

Cyclacillin has less *in vitro* activity than other drugs in the ampicillin class and its use should be confined to these indications: Treatment of the following infections:

RESPIRATORY TRACT

Tonsillitis and pharyngitis caused by Group A beta-hemolytic streptococci
Bronchitis and pneumonia caused by *S. pneumoniae* (formerly *D. pneumoniae*)
Otitis media caused by *S. pneumoniae* (formerly *D. pneumoniae*) and *H. influenzae*
Acute exacerbation of chronic bronchitis caused by *H. influenzae*
*Though clinical improvement has been shown, bacteriologic cures cannot be expected in all patients with chronic respiratory disease due to *H. influenzae*.

SKIN AND SKIN STRUCTURES (integumentary) infections caused by Group A beta-hemolytic streptococci and staphylococci, non-penicillinase producers.

URINARY TRACT INFECTIONS caused by *E. coli* and *P. mirabilis*. (This drug should not be used in any *E. coli* and *P. mirabilis* infections other than urinary tract.)

NOTE: Perform cultures and susceptibility tests initially and during treatment to monitor effectiveness of therapy and susceptibility of bacteria. Therapy may be instituted prior to results of sensitivity testing.

Contraindications Contraindicated in individuals with history of an allergic reaction to penicillins.

Warnings Cyclacillin should only be prescribed for the indications listed herein.

Cyclacillin has less *in vitro* activity than other drugs of the ampicillin class. However, clinical trials demonstrated it is efficacious for recommended indications.

Serious and occasional fatal hypersensitivity (anaphylactoid) reactions have been reported in patients on penicillin. Although anaphylaxis is more frequent following parenteral use, it has occurred in patients on oral penicillins. These reactions are more apt to occur in individuals with history of sensitivity to multiple allergens. There are reports of patients with history of penicillin hypersensitivity reactions who experienced severe hypersensitivity reactions when treated with a cephalosporin. Before penicillin therapy, carefully inquire about previous hypersensitivity reactions to penicillins, cephalosporins and other allergens. If allergic reaction occurs, discontinue drug and initiate appropriate therapy. Serious anaphylactoid reactions require immediate emergency treatment with epinephrine. Oxygen, I.V. steroids, airway management, including intubation, should also be administered as indicated.

Precautions Prolonged use of antibiotics may promote overgrowth of nonsusceptible organisms. If superinfection occurs, take appropriate measures.

PREGNANCY: Pregnancy Category B. Reproduction studies performed in mice and rats at doses up to 10 times the human dose revealed no evidence of impaired fertility or harm to the fetus due to cyclacillin. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, use this drug during pregnancy only if clearly needed.

NURSING MOTHERS: It is not known whether this drug is excreted in human milk. Because many drugs are, exercise caution when cyclacillin is given to a nursing woman.

Adverse Reactions Oral cyclacillin is generally well tolerated. As with other penicillins, untoward sensitivity reactions are likely, particularly in those who previously demonstrated penicillin hypersensitivity or with history of allergy, asthma, hay fever, or urticaria. Adverse reactions reported with cyclacillin: diarrhea (in approximately 1 out of 20 patients treated), nausea and vomiting (in approximately 1 in 50), and skin rash (in approximately 1 in 60). Isolated instances of headache, dizziness, abdominal pain, vaginitis, and urticaria have been reported. (See WARNINGS) Other less frequent adverse reactions which may occur and are reported with other penicillins are anemia, thrombocytopenia, thrombocytopenic purpura, leukopenia, neutropenia and eosinophilia. These reactions are usually reversible on discontinuation of therapy.

As with other semisynthetic penicillins, SGOT elevations have been reported.

As with antibiotic therapy generally, continue treatment at least 48 to 72 hours after patient becomes asymptomatic or until bacterial eradication is evidenced. In Group A beta-hemolytic streptococcal infections, at least 10 days' treatment is recommended to guard against risk of rheumatic fever or glomerulonephritis. In chronic urinary tract infection, frequent bacteriologic and clinical appraisal is necessary during therapy and possibly for several months after. Persistent infection may require treatment for several weeks.

Cyclacillin is not indicated in children under 2 months of age.

Patients with Renal Failure. Cyclacillin may be safely administered to patients with reduced renal function. Due to prolonged serum half-life, patients with various degrees of renal impairment may require change in dosage level (see DOSAGE AND ADMINISTRATION in package insert).

Dosage (Give in equally spaced doses)

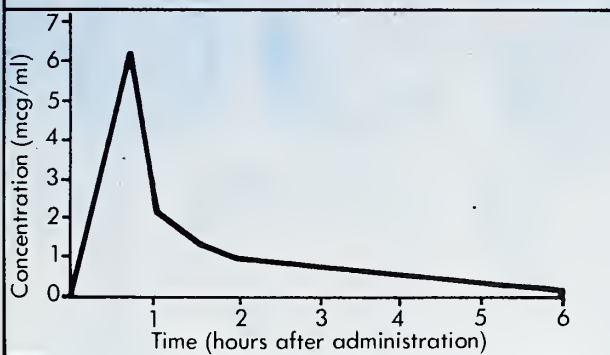
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| Chronic Infections | 500 mg q.i.d. | 100 mg/kg/day q.i.d. |
| Otitis Media | 250 mg to 500 mg q.i.d.† | 50 to 100 mg/kg/day† |
| Skin & Skin Structures | 250 mg to 500 mg q.i.d.† | 50 to 100 mg/kg/day† |
| Urinary Tract | 500 mg q.i.d. | 100 mg/kg/day |

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Efficacy proven in the treatment of bronchitis, pneumonia, and upper respiratory infections.[†]

In 117 patients, 73 with bronchitis/pneumonia caused by *S. pneumoniae* and 44 with streptococcal sore throat caused by Group A beta-hemolytic streptococcus, CYCLAPEN[®]-W achieved a clinical response rate of 100%! Bacterial eradication was 95% and 86% respectively.

[†]Due to susceptible organisms.

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- Rapid, virtually complete absorption from GI tract
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*Based on T_{1/2} values for single oral doses of 500 mg cyclacillin tablet and 500 mg ampicillin capsule. Data on file, Wyeth Laboratories.

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annual meeting of the Southern Thoracic Surgical Association, Nov. 12-15 in Sulphur Springs, W.Va.

* * *

Dr. Benson R. Wilcox, professor and division chairman of surgery, presented an invited talk at the scientific sessions of the American Heart Association Nov. 17-20 in Miami Beach. He spoke on "Surgical Anatomy of Double Outlet Right Ventricle with Situs Solitus and Antrioventricular Concordance."

* * *

Dr. Richard L. Clark, associate professor of radiology, is the author of the book, *Renal Microvascular Disease: Angiographic Microangiographic Correlates*, published recently by Little, Brown and Co., Boston, Mass.

* * *

Fourteen faculty members presented papers at the 53rd Scientific Sessions sponsored by the American Heart Association, Nov. 17-20 in Miami Beach. They are: Dr. Gilbert C. White, assistant professor of medicine; Michael J. Griffith, research assistant professor

of medicine; Dr. Henry S. Kingdon, professor of medicine; Dr. Harold R. Roberts, professor of medicine; Kuo-San Chung, instructor of medicine; Roger L. Lundblad, associate professor of pathology and biochemistry; Howard M. Reisner, assistant professor of pathology; Dr. Herbert A. Cooper, associate professor of pathology; R. H. Wagner, professor of pathology; Richard Tidwell, assistant professor of pathology; Dr. J. Dieter Geratz, professor of pathology; J. McDonagh, associate professor of pathology; Roy R. Hantgan, research assistant professor of biochemistry; and J. Hermans, professor emeritus of biochemistry.

* * *

Michael McGinnis, assistant professor of bacteriology, had a book, *Laboratory Handbook of Medical Mycology*, published by Academic Press, New York. He also has been appointed an editor of the "Journal of Clinical Microbiology."

* * *

Edward L. Chaney, associate professor of radiology, presented a paper at the International Symposium on Biomedical Dosimetry Oct. 27-31 in Paris.

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Contraindications: Topical steroids have not been reported to have an adverse effect on pregnancy, the safety of their use in pregnant females has not absolutely been established. Therefore, they should not be used extensively on pregnant patients, or in large amounts, or for prolonged periods of time.

Dosage and Administration: Apply to affected area 3 or 4 times daily as directed by your physician.

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Barbara E. James, associate professor of psychiatry, was elected vice president of the National Council on Family Relations at the council's annual meeting Oct. 21-27 in Portland.

* * *

Ronald G. Thurman, associate professor of pharmacology, presented invited lectures at the Congreso Argentio de Patologia and the XVII Argentio Congreso Nacional de Alcoholismo Nov. 4-8 Buenos Aires, Argentina. He was awarded permanent foreign membership in the Sociedad Argentinian de Patologia.

* * *

Marlys Mitchell, associate professor and director of occupational therapy, chaired a meeting of the publications committee of the American Occupational Therapy Association Nov. 17-19 in Rockville, Md.

* * *

Five members of the Department of Neurology attended the 10th annual meeting of the Society for Neuroscience Nov. 9-14 in Cincinnati. Dr. James N. Hayward, chairman and professor of neurology and medicine, gave an address in honor of Chandler McCuskey Brooks, physiologist at State University of New York. Dr. Robert Greenwood, Dr. J. Douglas

Mann, Troy Albert Reaves, assistant professors of neurology, presented scientific papers.

* * *

Dr. James F. Howard Jr., assistant professor of neurology, presented a paper on Electrophysiological Studies in Myasthenia Gravis Dec. 4 at the New York Academy of Sciences Conference on Myasthenia Gravis.

* * *

Colin D. Hall, associate professor of neurology, and Patricia B. Porter, communicative disorders specialist, presented a workshop on School Management of the Neuromuscularly Handicapped Child to the 32nd Annual Conference on Exceptional Children Nov. 21 in Charlotte.

* * *

Dr. Joe Cohn, Family Medicine, was awarded first prize for a paper presented at the North Carolina Academy of Family Physicians Annual Scientific Assembly Nov. 19-22 in Charlotte.

* * *

Dr. Ernest Craige, professor of medicine, was a visiting professor at Emory University School of Medicine Nov. 25-26. He also spoke at Michigan State University.

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News Notes from the—

EAST CAROLINA UNIVERSITY SCHOOL OF MEDICINE

A new program at the School of Medicine and Pitt County Memorial Hospital brings the hope of a kidney transplant closer to home for citizens in Eastern North Carolina with end-stage renal disease.

Medical center officials were notified in January that approval to implement renal transplantation services has been granted by the Health Financing Administration of the Department of Health and Human Services. The program is directed by the Department of Surgery.

The medical school's Office of Health Services Research and Development estimates that 168 patients in the region will be medically eligible for a transplant in 1981. The Department of Surgery expects to perform 25 procedures during the first year of the program.

Dr. Frank Thomas, professor of surgery and director of renal transplantation, said the new service makes renal transplantation "more accessible and convenient" to many patients who now depend on dialysis.

Before joining the medical school in August 1979, Thomas was a member of the renowned kidney and heart transplantation team at the Medical College of Virginia. He is founding member of the American Society of Transplant Surgeons.

In addition to Thomas, ECU physicians Walter J. Pories, Charles Rob and Edward G. Flickinger are members of the transplantation team. The team also includes surgery residents Carl Haisch and Robert Deepe, surgical transplant coordinator Dennis Blessing, medical transplant coordinator Sandra Bullock, and nurse practitioner Diane Meelheim.

Dr. Alfred L. Ferguson, clinical associate professor of medicine, and Drs. Thomas E. Burkart and Wayne Kendrick, clinical assistant professors of medicine, serve as nephrology consultants along with ECU physician Richard Merrill. Dr. Emmett J. Walsh, clinical associate professor of surgery, Dr. J. Richard Gavigan, clinical assistant professor of surgery, and Dr. Edward O. Janosko, clinical instructor of surgery, share responsibility for the removal of kidneys.

Donor testing and tissue matching are performed by Dr. Robert Hanrahan, assistant professor of pathology and laboratory medicine.

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Dr. Donald R. Hoffman, associate professor of pathology, published "Comparison of Methods of Performing the Radioallergosorbent Test: Phadebas, Fadal — Nalebuff and Hoffman Protocols" in the December 1980 issue of *Annals of Allergy*.

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Dr. Loretta Kopelman, associate professor of

humanities, is the author of "Estimating Risks in Human Research" in a recent issue of *Clinical Research*.

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Dr. Leonard S. English, assistant professor of microbiology, has received a \$51,453 grant from the National Institutes of Health to study "Regulation of the Immune Response in Vivo."

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Dr. Andrea L. Hunter, assistant professor of pharmacology, has received a \$26,711 grant from the National Institutes of Health to study "Hepatotoxic Effects of Thiono-Sulfur Compounds."

N.C. ACADEMY OF FAMILY PHYSICIANS

Dr. Amos Johnson of Garland was given the gavel used by the 1970 House of Representatives in the final passage of Senate Bill 3418, the so-called family doctor bill, which he so actively supported. The gavel has

now been presented to the N.C. Academy of Family Physicians. The presentation made at the academy's annual meeting in November cited Johnson's role in the legislation which, among other things, provided for grants to medical schools and hospitals for the establishment of departments and programs in family medicine. The gavel will be displayed in the headquarters of the North Carolina Academy.

AMERICAN COLLEGE OF PHYSICIANS

Eight North Carolinians have been chosen Fellows of the American College of Physicians and will be inducted at the college's annual session in Kansas City in April. They are Dr. Philip M. Blatt of Chapel Hill, Dr. Thomas W. Hauch of Charlotte, Dr. Barton F. Haynes of Durham, Dr. Samuel T. Drake of Gastonia, Dr. Bruce R. Brodie of Greensboro, Dr. Thomas R. Griggs of Hillsborough, Dr. Dudley B. Anderson of Wilson and Dr. Edward J. Pisko of Winston-Salem.

In Memoriam

HERVEY WINTHROP MEAD

Dr. Hervey Winthrop Mead died Oct. 20, 1980. He was born June 8, 1916, in Mitchell, S.D. He went to Middlebury College in Vermont, receiving an A.B. degree in 1938. In 1942 he completed his medical training at the Medical College of South Carolina and went for an internship at Grady Memorial Hospital in Atlanta, after which he entered the Army Medical Corps as a general medical officer, serving July, 1943 through December, 1946. After a three-month refresher course in general medicine at the University of Vermont Medical College, he practiced in Columbia, S.C., until June, 1951, when he moved his practice to Pendleton, S.C. In June 1960 he went to Tulane University Medical School for residency training in psychiatry, finishing in June, 1963. After residency he served as a staff psychiatrist at East Louisiana State Hospital in Mandeville, La., and part-time medical director at the Hammond Mental Health Clinic in Hammond, La. In June, 1965, he moved to Charlotte where he was in the private practice of psychiatry until his retirement June 30, 1979.

Hervey had a sustained career as a well-trained and effective healer whose concern and understanding of his patients' problems generated a large and devoted medical practice that commanded love and respect measurable partly by the deep sense of loss that his patients felt at the time of his retirement. A physician who took his professional responsibilities seriously, he was active in the state neuropsychiatric association as well as locally. He served as an attending staff member at Charlotte Memorial during his residence in Charlotte and was chief of the psychiatric staff from 1974 to 1976.

Hervey was married to the former Cleo Taylor. They had three sons. He is also survived by two brothers, Beverley and Mate. Hervey was a member of the Carmel Presbyterian Church.

He was a warm, loving person whose compassionate involvement with others will long be remembered, and whose death leaves those who knew him — his family, friends, and colleagues and his patients — with a great loss.

Mecklenburg County Medical Society

OFFICIAL CALL HOUSE OF DELEGATES

pursuant to the Bylaws, Chapter V, Section 1:

HOUSE OF DELEGATES Meetings scheduled

Notice to: Delegates, Alternate Delegates, Officials of the North Carolina Medical Society, and Presidents and Secretaries of county medical societies.

Sessions of the HOUSE OF DELEGATES will convene in the Cardinal Ballroom, Pinehurst Hotel, Pinehurst, North Carolina, at the following times:

Thursday, May 7, 1981—10:00 a.m.—Opening Session
Saturday, May 9, 1981—2:00 p.m.—Second Session

A member of the CREDENTIALS COMMITTEE will be present at the Desk in the Hotel Lobby, Wednesday, May 6, 1981, 3:00 p.m. to 5 p.m., and Thursday, May 7, 1981, 8:30 a.m. to 10:00 a.m. to certify Delegates. Delegates are urged to bring their Credential Cards for presentation at the Registration Desk. Delegate Badges must be worn to be seated in the HOUSE OF DELEGATES.

REFERENCE COMMITTEE HEARINGS

Reference Committee hearings are scheduled to begin Thursday, May 7, 1981, at 2:00 p.m.

FRANK SOHMER, M.D., President
HENRY J. CARR, JR., M.D., Speaker
JACK HUGHES, M.D., Secretary
WILLIAM N. HILLIARD, Executive Director

Highlights of the Program

127TH ANNUAL SESSION NORTH CAROLINA MEDICAL SOCIETY MAY 7-10, 1981 PINEHURST HOTEL PINEHURST, NORTH CAROLINA

WEDNESDAY, MAY 6

- 12:00 Noon-5:00 p.m. — REGISTRATION — (West Lobby)
12:00 Noon — BOARD MEETING & LUNCH — (Crystal Room) North Carolina Chapter American College of Emergency Physicians
2:00 p.m.-6:00 p.m. — SECTION ON EMERGENCY MEDICINE — (Crystal Room)

THURSDAY, MAY 7

- 8:00 a.m.-5:00 p.m. — REGISTRATION — (West Lobby)
8:30 a.m.-5:00 p.m. — EXHIBITS open — (North, South & Dogwood Rooms)
8:30 a.m.-11:30 a.m. — SECTION ON NEUROLOGY & PSYCHIATRY — (Crystal Room)
10:00 a.m. — HOUSE OF DELEGATES — Opening Session — (Cardinal Ballroom)
12:00 Noon-5:00 p.m. — SECTION ON OPHTHALMOLOGY — (Crystal Room)
1:30 p.m.-4:00 p.m. — SECTION ON PUBLIC HEALTH & EDUCATION — (Old Dining Room, Pinehurst Country Club)
2:00 p.m. — REFERENCE COMMITTEE HEARINGS:
Cardinal Ballroom
Azalea Bar
Board Room
3:00 p.m.-5:00 p.m. — SECTION ON UROLOGY — (Game Room)
5:30 p.m. — Social Hour — Section on UROLOGY — (Game Room)
6:00 p.m.-8:30 p.m. — MEDPAC Barbeque/Rally — (Poolside & Gazebo)
6:00 p.m. — RECEPTION — Medical College of Virginia Alumni — (Room 439)
7:30 p.m. — DINNER — Medical College of Virginia Alumni — (Crystal Room)

FRIDAY, MAY 8

- 8:00 a.m.-5:00 p.m. — REGISTRATION — (West Lobby)

- 8:30 a.m.-5:00 p.m. — EXHIBITS open — (North, South & Dogwood Rooms)
8:30 a.m.-9:00 a.m. — CONJOINT SESSION — North Carolina Medical Society & North Carolina Division of Health Services (Cardinal Ballroom)
9:00 a.m.-12:00 Noon — FIRST GENERAL SESSION — (Cardinal Ballroom) SURGICAL SESSION — presented by Department of Surgery, Bowman Gray School of Medicine, Winston-Salem
9:00 a.m.-1:00 p.m. — SECTION ON OTOLARYNGOLOGY & MAXILLOFACIAL SURGERY — (Banquet Room, New Members Club — Pinehurst Country Club)
9:30 a.m.-10:30 a.m. — Executive Committee Meeting — N.C. Pediatric Society — (Room #129)
10:30 a.m.-5:00 p.m. — SECTION ON PEDIATRICS — (Crystal Room)
12:30 p.m. — SECTION ON SURGERY — Business Meeting (Cardinal Ballroom)
1:00 p.m. — NCSIM — Executive Committee Meeting — (Merion Cottage)
2:00 p.m.-5:00 p.m. — SECTION ON OBSTETRICS & GYNECOLOGY — (Cardinal Ballroom)
2:00 p.m.-4:00 p.m. — SECTION ON ORTHOPAEDICS — (Game Room)
2:00 p.m.-5:00 p.m. — SECTION ON FAMILY PRACTICE — (Azalea Bar)
3:00 p.m. — SECTION ON INTERNAL MEDICINE — Business Meeting — (Merion Cottage)
5:00 p.m. — SOCIAL HOUR — Section on ORTHOPAEDICS — (Poolside)
5:30 p.m. — SOCIAL HOUR — NCSIM — (Merion Cottage)
6:30 p.m. — SOCIAL HOUR — UNC Medical Alumni — (West Porch & Gazebo)
6:30 p.m. — SOCIAL HOUR & DINNER — DUKE Medical Alumni — (Pinehurst Country Club)
6:30 p.m. — SOCIAL HOUR — BOWMAN GRAY Medical Alumni (Cardinal Ballroom)
7:15 p.m. — DINNER — BOWMAN GRAY Medical Alumni — (Cardinal Ballroom)

SATURDAY, MAY 9

- 8:00 a.m.-3:00 p.m. — REGISTRATION — (West Lobby)

8:00 a.m.-12:00 Noon — SECTION ON DERMATOLOGY — (Crystal Room)
 8:00 a.m.-12:00 Noon — SECTION ON PATHOLOGY — (Azalea Bar)
 8:00 a.m.-12:00 Noon — SECTION ON PLASTIC & RECONSTRUCTIVE SURGERY — (Board Room)
 8:00 a.m.-1:00 p.m. — SECTION ON ANESTHESIA — (Game Room)
 8:30 a.m.-12:00 Noon — EXHIBITS open — (North, South & Dogwood Rooms)
 8:30 a.m.-12:30 p.m. — SECTIONS ON RADIOLOGY & NUCLEAR MEDICINE — (Meeting House, Mid Pines Club, Southern Pines)
 9:00 a.m.-12:30 p.m. — SECOND GENERAL SESSION — (Cardinal Ballroom)
 MEDICAL SESSION including HOOPER MEMORIAL LECTURE — ANNUAL ADDRESS OF THE PRESIDENT — (Cardinal Ballroom)
 12:00 Noon — PICNIC — Section on DERMATOLOGY (West Porch)
 1:00 p.m. — LUNCH — Section on NEUROLOGICAL SURGERY — (Crystal Room)
 2:00 p.m.-5:00 p.m. — SECTION ON NEUROLOGICAL SURGERY — (Crystal Room)
 2:00 p.m. — HOUSE OF DELEGATES — Second Session — (Cardinal Ballroom)
 6:30 p.m. — PRESIDENT'S RECEPTION — (Land Sales Office)
 7:30 p.m. — PRESIDENT'S DINNER — (Cardinal Ballroom)

SUNDAY, MAY 10

8:30 a.m. — BREAKFAST — AMA Delegates & Alternate Delegates (Crystal Room)
 9:00 a.m.-1:00 p.m. — BOARD OF DIRECTORS, North Carolina Academy of Family Physicians — (Dogwood Room)

CONJOINT SESSION

Friday, May 8, 1981 Cardinal Ballroom
 8:30 a.m.-9:00 a.m.

CONJOINT SESSION — North Carolina Medical Society and North Carolina Division of Health Services

GENERAL SESSIONS FIRST GENERAL SESSION

Friday, May 8, 1981 Cardinal Ballroom
 9:00 a.m.-12:00 Noon

Convene Session

Presiding: Frank Sohmer, M.D., President, Winston-Salem

Invocation:

Surgical Session

Department of Surgery, Bowman Gray School of Medicine, Winston-Salem

9:00 a.m. — Opening Remarks

MODERATOR: Richard T. Myers, M.D., Professor & Chairman, Department of Surgery, Bowman Gray School of Medicine, Winston-Salem

9:05 a.m. — "WHAT'S NEW IN ENDOCRINE SURGERY?"

David Albertson, M.D., Assistant Professor of Surgery, Section of General Surgery

9:35 a.m. — "UPDATE OF LARYNGEAL TRAUMA"

James Thompson, M.D., Assistant Professor Surgery, Section of Otolaryngology

10:05 a.m. — Discussion

10:30 a.m. — COFFEE BREAK

10:45 a.m. — "ARTHROSCOPY, DIAGNOSTIC AND THERAPEUTIC CONSIDERATION"

Gary Poehling, M.D., Assistant Professor of Surgery, Section of Orthopedics

11:15 a.m. — "NEW CONCEPTS IN THE MANAGEMENT OF SCOLIOSIS"

Joseph Nicastro, M.D., Asst. Professor of Surgery, Section of Orthopedics

12:00 Noon — ANNOUNCEMENTS
 ADJOURN

SECOND GENERAL SESSION

Saturday, May 9, 1981 Cardinal Ballroom
 9:00 a.m.-12:00 Noon

Convene Session

Presiding: E. Thomas Marshburn, Jr., M.D.

First Vice President
 Wilmington

Medical Session

Department of Medicine

East Carolina University School of Medicine
 Greenville

Moderator: Eugene D. Furth, M.D., Greenville

9:00 a.m.-9:20 a.m. — NEW CAUSES OF DIARRHEA

Richard S. Marx, M.D.

9:20 a.m.-9:40 a.m. — CALCIUM STONES REVISITED

Richard H. Merrill, M.D.

9:40 a.m.-10:00 a.m. — GI HORMONES

Thomas F. O'Brien, Jr., M.D.

10:00 a.m.-10:20 a.m. — CAT EVALUATION OF THE THORAX

Barry Powers, M.D.

10:20 a.m.-10:40 a.m. — COFFEE BREAK

10:40 a.m.-11:20 a.m. — HOOPER MEMORIAL LECTURE — INDICATIONS AND CONTRA-INDICATIONS TO CORONARY ARTERY BYPASS

Allen F. Bowyer, M.D.

11:20 a.m.-11:40 a.m. — ADVANCES IN INTERVENTIONAL RADIOLOGY
Michael D. Weaver, M.D.

11:40 a.m.-12:00 Noon — SEXUALLY TRANSMITTED DISEASE: CHLAMYDIA
Peter B. Campbell, M.D.

12:00 Noon — ANNUAL ADDRESS OF THE PRESIDENT
Frank Sohmer, M.D., President, Winston-Salem

12:30 p.m. — ANNOUNCEMENTS
AWARDING OF PRIZES — (for Exhibits attendance)
ADJOURN

WEDNESDAY, MAY 6, 1981

12:00 Noon-2:00 p.m. — LUNCHEON AND MEETING — N.C. Chapter
ACEP Board of Directors
(Crystal Room)

SECTION ON EMERGENCY MEDICINE

Wednesday, May 6, 1981

2:00 p.m.-6:00 p.m.Crystal Room

CHAIRMAN: Tad W. Lowdermilk, M.D., Winston-Salem

Scientific Session:

2:00 p.m.-2:30 p.m. — ACLS IN INFANTS AND SMALL CHILDREN
B. J. Fulton, M.D., Resident in Emergency Medicine, Bowman Gray School of Medicine & Baptist Hospital, Winston-Salem

2:30 p.m.-3:00 p.m. — BLS AND AIRWAY MANAGEMENT IN INFANTS AND SMALL CHILDREN
Ron Milewski, M.D., Resident in Emergency Medicine, Bowman Gray School of Medicine & Baptist Hospital, Winston-Salem

3:00 p.m.-3:30 p.m. — PEDIATRIC TRAUMA
Robert Lesslie, M.D., Resident in Emergency Medicine, Charlotte Memorial Hospital, Charlotte

3:30 p.m.-4:00 p.m. — PEDIATRIC FLUID RESUSCITATION AND ELECTROLYTE BALANCE
Jim Evans, M.D., Resident in Emergency Medicine, Charlotte Memorial Hospital, Charlotte

4:00 p.m.-5:00 p.m. — PANEL DISCUSSION
Robert Rieker, M.D., Assistant Professor of Medicine, Bowman Gray School of Medicine, Winston-Salem
B. J. Fulton, M.D.
Ron Milewski, M.D.
Robert Lesslie, M.D.
Jim Evans, M.D.

Business Session:

5:00 p.m.-6:00 p.m. — Election of Officers, Delegate, and Alternate Delegate for 1981-82

THURSDAY, MAY 7, 1981

HOUSE OF DELEGATES —

Opening SessionCardinal Ballroom
10:00 a.m.-12:00 Noon

REFERENCE COMMITTEE HEARINGS 2:00 p.m.
REFERENCE COMMITTEE I — Azalea Bar
REFERENCE COMMITTEE II — Cardinal Ballroom
REFERENCE COMMITTEE III — Board Room

SECTION ON NEUROLOGY & PSYCHIATRY

Thursday, May 7, 1981

8:30 a.m.-11:30 a.m.Crystal Room

CHAIRMAN: William M. McKinney, M.D., Winston-Salem
(Program to be announced)

SECTION ON PUBLIC HEALTH & EDUCATION

Thursday, May 7, 1981

1:30 p.m.-4:00 p.m.Old Dining Room
Pinehurst Country Club

CHAIRMAN: Lewis L. Bock, M.D., Raleigh

Scientific Session:

1:30 p.m.-2:15 p.m. — DRUGS AND FOODS: HOW INCOMPATIBLE RELATIONSHIP
Charles Reed, R.Ph.

2:15 p.m.-3:00 p.m. — CHANGING PROGNOSIS FOR DIABETIC MOTHERS AND THEIR INFANTS
Paul J. Meis, M.D., Winston-Salem

3:00 p.m.-3:15 p.m. — BREAK

3:15 p.m.-4:00 p.m. — CHANGING LIFE STYLES IN A RURAL PRACTICE
Linda M. Robinson, M.D., Coats

4:15 p.m. - 4:30 p.m. — Business Management
Election of Officers, Delegate and Alternate Delegate for 1981-82

SECTION ON OPHTHALMOLOGY

Thursday, May 7, 1981

2:00 p.m.-5:00 p.m.Crystal Room

CHAIRMAN: John W. Reed, M.D., Winston-Salem
PROGRAM CHAIRMAN: J. Lawrence Sippe, M.D., Charlotte

2:00 p.m. — CORNEAL ULCERATION AFTER CATARACT SURGERY IN KERATOCONJUNCTIVITIS SICCA
Kenneth L. Cohen, M.D., Chapel Hill

2:10 p.m. — CORNEAL TATTOOING
John W. Reed, M.D., Winston-Salem

2:20 p.m. — EARLY VITRECTOMY IN THE MANAGEMENT OF PROLIFERATIVE DIABETIC RETINOPATHY
Brooks W. McCuen, II, M.D., Durham

- 2:30 p.m. — THE DIFFERENTIAL DIAGNOSIS OF HERPES SIMPLEX KERATITIS
L. Michael Cobo, M.D., Durham
- 2:40 p.m. — CORNEAL GRAFTING FOR HERPETIC KERATITIS
L. Michael Cobo, M.D., Durham
- 2:50 p.m. — THE CONSENSUAL PUPILLARY LIGHT RESPONSE AS AN AID TO THE GONIOSCOPIC EVALUATION OF THE NARROW ANGLED EYE
L. Frank Cashwell, M.D., Winston-Salem
- 3:00 p.m. — HISTOCOMPATIBILITY TESTING AND HIGH RISK CORNEAL TRANSPLANT PATIENTS
Gary N. Foulks, M.D., Durham
- 3:10 p.m. — CONFUSING CONGENITAL DISC ANOMALIES
Baird Grimson, M.D., Chapel Hill
- 3:20 p.m. — USE OF QUICKERT SILICONE TUBE INTUBATION OF THE LACRIMAL DRAIN SYSTEM
J. Richard Marion, M.D., Winston-Salem
- 3:30 p.m. — CLINICAL SIGNIFICANCE OF PIGMENT DUST IN THE ANTERIOR VITREOUS
Donald P. Renaldo, M.D., Charlotte
- 3:40 p.m. — ARGON LASER ENDOPHTHALMOCOAGULATION
Maurice B. Landers, III, M.D., and Michael Trese, M.D., Durham
- 3:50 p.m. — COFFEE BREAK
- 4:00 p.m. — RADIAL KERATOTOMY IN MOSCOW WITH PROFESSOR FYODOROV
Harold Jacklin, M.D., Greensboro
- 4:15 p.m. — RADIAL KERATOTOMY IN SANTA FE WITH DR. BORES
Kenneth L. Cohen, M.D., Chapel Hill
- 4:30 p.m. — RADIAL KERATOTOMY
George W. Tate, Jr., M.D., and Robert G. Martin, M.D., Southern Pines
- 4:50 p.m. — DISCUSSION

Business Session:

Election of Officers, Delegate and Alternate Delegate for 1981-82

SECTION ON UROLOGY

Thursday, May 7, 1981

- 3:00 p.m.-5:00 p.m.Game Room
- CHAIRMAN: John S. Harman, M.D., Burlington
- CHAIRMAN-ELECT: Donald T. Lucey, M.D., Raleigh
- 3:00 p.m. — Business Session
- Election of Officers, Delegate and Alternate Delegate for 1981-82

- 4:00 p.m. — SCIENTIFIC SESSION
IMPOTENCE, A NEW APPROACH TO AN OLD PROBLEM
Floyd Fried, M.D., Chief of Urology
UNC School of Medicine, Chapel Hill
- 5:30 p.m. — SOCIAL HOUR

SECTION ON OTOLARYNGOLOGY AND MAXILLOFACIAL SURGERY

Friday, May 8, 1981

- 9:00 a.m.-1:00 p.m.Banquet Room
New Members Club
Pinehurst Country Club

CHAIRMAN: G. Patrick Henderson, M.D., Southern Pines

PROGRAM CHAIRMAN: Walter R. Sabiston, M.D., Kinston

Scientific Session:

SEPTO-COLUMELLAR NASAL TIP TECHNIQUE AND ITS APPLICATION

Jack W. Thornton, M.D., Hickory

PANENDOSCOPY — A NECESSITY IN THE PRE-OPERATIVE EVALUATION OF HEAD AND NECK CANCER PATIENTS

W. Fred McGuirt, M.D., Winston-Salem

EXPERIENCE WITH HEARING SYSTEMS

William B. Costenbader, M.D., Asheville

Garrett L. Denniston, M.A.

POSTERIOR NECK DISSECTION

Boyce Cole, M.D., Durham

Samuel R. Fisher, M.D., Durham

ENDOSCOPY

George B. Ferguson, M.D., Durham

(TO BE ANNOUNCED)

W. Paul Biggers, M.D., Chapel Hill

Business Session:

Election of Officers, Delegate and Alternate Delegate for 1981-82

SECTION ON PEDIATRICS

Friday, May 8, 1981

- 10:30 a.m.-5:00 p.m.Crystal Room

CHAIRMAN: David T. Tayloe, M.D., Washington

10:30 a.m. — Liaison Committee Meeting — N.C. Pediatric Society

Scientific Session:

2:00 p.m.-5:00 p.m.

PNEUMONIAS IN INFANTS

Catherine M. Wilfert, M.D., Durham

SINUSITIS

Laura E. T. Gutman, M.D., Durham

DIARRHEAS

Samuel L. Katz, M.D., Durham

PARASITES AMONG US

Thomas E. Frothingham, M.D., Durham

Business Session:
Election of Officers, Delegate and Alternate Delegate for 1981-82

SECTION ON SURGERY
Friday, May 8, 1981
12:30 p.m. Cardinal Ballroom
CHAIRMAN: Richard T. Myers, M.D., Winston-Salem
Business Session:
Election of Officers, Delegate and Alternate Delegate for 1981-82
(The Scientific portion of the Section on Surgery is being presented as the **SURGICAL SESSION** of the **FIRST GENERAL SESSION** on Friday, May 8, 1981, 9:00 a.m. in the Cardinal Ballroom)

SECTION ON ORTHOPAEDICS
Friday, May 8, 1981
2:00 p.m.-4:00 p.m. Game Room
CHAIRMAN: Donald B. Reibel, M.D., Raleigh
SECRETARY: John W. Packer, M.D., Raleigh
2:00 p.m.-3:00 p.m. — **SCIENTIFIC SESSION**
3:00 p.m.-4:00 p.m. — **BUSINESS SESSION:** Election of Officers, Delegate and Alternate Delegate for 1981-82
5:00 p.m. — Cocktails — Poolside

SECTION ON OBSTETRICS & GYNECOLOGY
Friday, May 8, 1981
2:00 p.m.-5:00 p.m. Cardinal Ballroom
CHAIRMAN: John R. Ashe, Jr., M.D., Concord
Scientific Session:
REPORT FROM THE MATERNAL HEALTH COMMITTEE OF THE NORTH CAROLINA MEDICAL SOCIETY
Robert G. Brame, M.D., Chairman, Greenville
REPORT FROM THE REGIONAL PERINATAL STANDARDS SUBCOMMITTEE
Robert G. Brame, M.D., Chairman, Greenville
REPORT FROM THE NORTH CAROLINA PERINATAL CARE PROGRAM
Richard R. Nugent, M.D., Lead Consultant, Raleigh
NORTH CAROLINA PERINATAL MORTALITY STUDY
W. Joseph May, M.D., Winston-Salem
MODEL REGIONAL AMBULATORY HIGH RISK PRENATAL CLINIC-LEVEL III
W. Joseph May, M.D., Winston-Salem

ALPHA FETO-PROTEIN SCREENING PROGRAM
Robert C. Cefalo, M.D., Director of Fetal Maternal Medicine, and A. Myron Johnson, M.D., Department of Pathology, UNC School of Medicine, Chapel Hill

Business Session:
Election of Officers, Delegate and Alternate Delegate for 1981-82

SECTION ON FAMILY PRACTICE
Friday, May 8, 1981
2:00 p.m.-5:00 p.m. Azalea Bar
CHAIRMAN: Harry Summerlin, Jr., M.D., Asheville
PROGRAM CHAIRMAN: Hal Stuart, M.D., Elkin
Scientific Session:
Mini Workshop on Geriatrics
Business Session:
Election of Officers, Delegate and Alternate Delegate for 1981-82

SECTION ON INTERNAL MEDICINE
Friday, May 8, 1981
3:00 p.m. Merion Cottage
CHAIRMAN: Robert S. Belk, M.D., Lenoir
Business Session:
Election of Officers, Delegate and Alternate Delegate for 1981-82
(The Scientific Program of the Section on Internal Medicine is presented at the **MEDICAL SESSION**, of the **SECOND GENERAL SESSION**, Saturday, May 9, 1981, 9:00 a.m., Cardinal Ballroom.)

SECTION ON PLASTIC AND RECONSTRUCTIVE SURGERY
Saturday, May 9, 1981
8:00 a.m.-12:00 Noon Board Room
CHAIRMAN: Vartan A. Davidian, M.D., Raleigh
SECRETARY: Kelly Wallace, M.D., Greenville
Scientific Session
Business Session:
Election of Officers, Delegate and Alternate Delegate for 1981-82

SECTION ON PATHOLOGY
Saturday, May 9, 1981
8:00 a.m.-12:00 Noon Azalea Bar
CHAIRMAN: A. Laurence Dee, M.D., Charlotte
Scientific Session:
Business Session:
Election of Officers, Delegate and Alternate Delegate for 1981-82

**JOINT MEETING
SECTION ON RADIOLOGY**

**and
SECTION ON NUCLEAR MEDICINE**

Saturday, May 9, 1981

8:30 a.m.-12:30 p.m. Meeting House
MID PINES CLUB, Southern Pines

CHAIRMAN: Robert S. Lackey, M.D., Charlotte,
Section on Radiology; Nat E. Watson, Jr.,
M.D., Winston-Salem, Section on Nuclear
Medicine

PROGRAM CHAIRMAN: Nuclear Medicine —
William McCartney, M.D., Chapel Hill

Scientific Session:
(To be announced)

Business Session:
Election of Officers, Delegate and Alternate Dele-
gate for each Section of the year 1981-82

SECTION ON DERMATOLOGY

Saturday, May 9, 1981

9:00 a.m.-12:00 Noon Crystal Room

CHAIRMAN: John H. Hall, M.D., Greensboro
SECRETARY-TREASURER: W. Harrison Turner,
II, M.D., Greensboro

Scientific Session:
CONTROVERSIES IN DERMATOLOGY
John M. Knox, M.D., Professor and Chairman,
Department of Dermatology, Baylor College of
Medicine, Houston, Texas

Business Session:
Election of Officers, Delegate and Alternate Dele-
gate for 1981-82
12:00 Noon — PICNIC — West Porch

SECTION ON NEUROLOGICAL SURGERY

Saturday, May 9, 1981

1:00 p.m.-5:00 p.m. Crystal Room
CHAIRMAN: William L. Pritchard, M.D., Charlotte
1:00 p.m. — LUNCHEON — Crystal Room
2:00 p.m.-3:30 p.m. — SCIENTIFIC SESSION
3:30 p.m.-5:00 p.m. — BUSINESS SESSION:
Election of Officers, Delegate and Alternate Del-
egate for 1981-82

SECTION ON ANESTHESIOLOGY

Saturday, May 9, 1981

8:00 a.m.-1:00 p.m. PINE ROOM
CHAIRMAN: Vincent C. Andracchio, M.D., Rocky
Mount
8:15 a.m.-8:30 a.m.—Registration
8:30 a.m.-9:45 a.m.—RATIONAL USE OF
AROUSAL AGENTS
Raymond Roy, M.D., Assistant Professor of
Anesthesia, Bowman Gray, Winston-Salem
9:50 a.m.-10:30 a.m.—NEW DEVELOPMENT IN
THE USE OF MUSCLE RELAXANTS
Frederic M. Ramsey, M.D., Assistant Professor
of Anesthesia, Bowman Gray, Winston-Salem
10:35 a.m.-11:35 a.m.—ANESTHESIA FOR
OPHTHALMOLOGIC SURGERY
Charles McLesky, M.D., Assistant Professor of
Anesthesia, Bowman Gray, Winston-Salem
12:00 Noon-12:15 p.m.—Coffee Break
12:15 p.m.-1:00 p.m.—Spring Meeting — LeRoy
King, M.D., President, Presiding

SUNDAY, MAY 10, 1981

9:00 a.m.-1:00 p.m. Dogwood Room
BOARD OF DIRECTORS' MEETING — North
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Index to Advertisers

| | | | |
|---|--------------------|---|--------------------------------|
| Abbott Laboratories | 160, 161 | Lilly, Eli & Company | 152 |
| Anderson-Clayton Foods | 186 | Mandala Center | 162 |
| Blue Cross & Blue Shield of N.C. | 155 | Medical Liability Mutual Insurance Co. | 146 |
| Bristol Laboratories | 190, 191, 192 | Merrell National | 204, 205, 206 |
| Bristol-Myers Professional Products | 148, 149, 158, 159 | Mutual of Omaha | 157 |
| Burroughs Wellcome Company | 164, 199 | Ortega Pharmaceutical Company, Inc. | 210 |
| Charlotte Chest Laboratory | 196 | Plyler Financial Services | 193 |
| Charlotte Treatment Center | 194 | Ramada Inn Downtown | 156 |
| Children's Home Society of N.C. | 211 | Roche Laboratories | Cover 2, 145, Cover 3, Cover 4 |
| Crompton, J. L. & J. Slade, Inc. | 151 | Saint Albans Psychiatric Hospital | 182 |
| Fellowship Hall, Inc. | 202 | Smith Kline Diagnostics | 163 |
| Golden-Brabham Insurance Agency | 166 | Smith, Kline & French | 197 |
| HEDECO | 165 | Willingway, Inc. | 222 |
| Holly Hill Hospital | 185 | Winchester Surgical Supply Company, | |
| International Conferences | 207 | Winchester-Ritch Surgical Company | 147 |
| Janssen Pharmaceutica | 200, 201 | Wyeth Laboratories | 208, 209 |



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Original Articles

- Committee on Anesthesia Study.
Anesthetic-Related Deaths:
1969-1976** 253
Albert A. Bechtoldt, Jr., M.D.
- A Definitive History of the Raleigh
Academy of Medicine** 260
Alexander Webb, Jr., M.D.
- The Raleigh Academy of Medicine** .. 263
John S. Rhodes, M.D.

Special Articles

- The Future of Medical Enterprise:
Perspectives on Resource Allocation
in Socialized Markets** 265
Uwe E. Reinhardt
- The Physician and Spouse.
III. Problems and Some
Comments on Solutions** 274
W. P. Wilson, M.D., and
D. B. Larson, M.D.

Mini-Features

- Toxic Encounters of the
Dangerous Kind** 278
Ronald B. Mack, M.D.
- North Carolina Medical Curiosities** 278
E. Wayne Massey, M.D.

Editorials

- Midwinter Meeting of the Executive
Council of the North Carolina
Medical Society, February 7, 1981** 280
- Alcohol and the Heart** 280
- Coffea Arabica** 281

Practice Management

- Management Consultants** 283

Bulletin Board

- New Members of the State Society** 285
- What? When? Where?** 286
- Auxiliary to the North Carolina
Medical Society** 288
- News Notes from the Bowman Gray
School of Medicine of Wake
Forest University** 290
- News Notes from the Duke
University Medical Center** 295
- News Notes from the University of
North Carolina-Chapel Hill
School of Medicine and North
Carolina Memorial Hospital** 297
- In Memoriam** 300
- Classified Ads** 301
- Index to Advertisers** 302

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Facts

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Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma. May be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication, abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms similar to those with barbiturates and alcohol have been observed with abrupt discontinuation, usually limited to extended use and excessive doses. Infrequently, milder withdrawal symptoms have been reported following abrupt discontinuation of benzodiazepines after continuous use, generally at higher therapeutic levels, for at least several months. After extended therapy, gradually taper dosage. Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence.

Usage in Pregnancy: Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed, drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other anti-depressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported, should these occur, discontinue drug. Isolated reports of neutropenia, jaundice, periodic blood counts and liver function tests advisable during long-term therapy.

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2. G.I. Blood Loss Study: crossover design; 15 subjects; dosage—2 five-grain tablets q.i.d. over 7 days for each drug. Leonards, J.R. and Levy, G.: Effect of pharmaceutical formulation on gastrointestinal bleeding from aspirin tablets, *Arch. Intern. Med.* 129: 457, 1972. (Neolin is designated as Product A in this study).

3. Leonards, J.R. and Levy, G.: Biopharmaceutical aspects of aspirin-induced gastrointestinal blood loss in man. *J. Pharm. Sci.* 58:1277, 1969.

4. Salicylate Blood Level Study: crossover design; 9 subjects. Leonards, J.R. and Levy, G.: Effect of pharmaceutical formulation on gastrointestinal bleeding from aspirin tablets, *Arch. Intern. Med.* 129:457, 1972.

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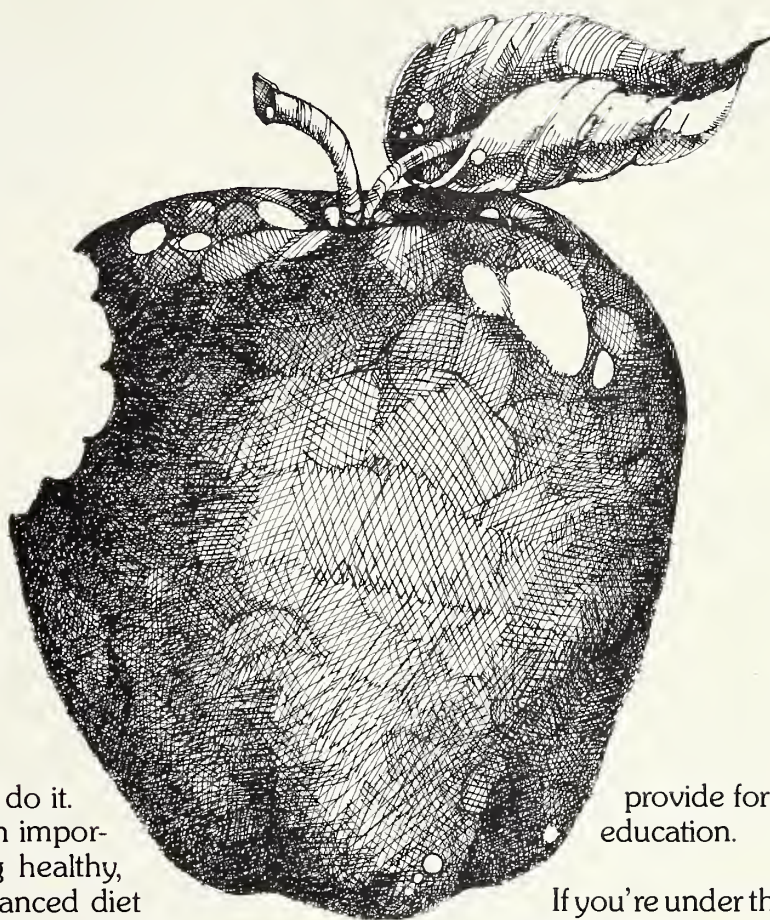
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(ibuprofen)



compare the analgesic effect

A *Motrin* 400 mg dose relieved postsurgical dental pain as effectively as a combination of 650 mg aspirin and 60 mg codeine (two aspirin-with-codeine No. 3 tablets) in a study of 129 patients.

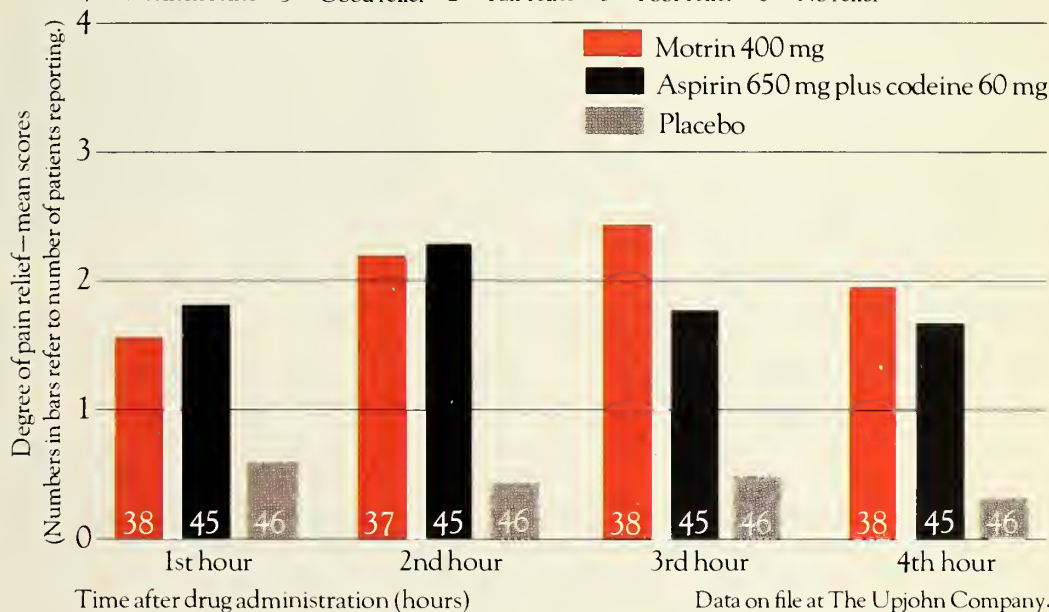
In this double-blind, placebo-controlled, randomized study, no statistically significant difference in relief of pain was noted at 1, 2, and 4 hours between the *Motrin* and aspirin-with-codeine groups... with *Motrin* being significantly more effective ($p = 0.03$) at the three-hour interval.

Active treatment was significantly more effective ($p < 0.0001$) than placebo at all time intervals.

Comparison of pain relief

Motrin vs aspirin-codeine combination

4 = Excellent relief 3 = Good relief 2 = Fair relief 1 = Poor relief 0 = No relief



One tablet q4-6h prn

For relief of mild to moderate pain:

Motrin[®] 400mg TABLETS
ibuprofen, Upjohn

- Not a narcotic • Not addictive • Not habit forming • Nonscheduled
- Acts peripherally • Relieves pain rapidly • Relieves inflammation • Indicated in acute and chronic pain • Well tolerated (The most common side effect with *Motrin* is mild gastrointestinal disturbance.)

Please turn the page for a brief summary of prescribing information.

Upjohn

Motrin® (ibuprofen)

now proved an effective analgesic for mild to moderate pain

Motrin® Tablets (ibuprofen, Upjohn)

Indications and Usage: Relief of mild to moderate pain.

Treatment of signs and symptoms of rheumatoid arthritis and osteoarthritis during acute flares and in long-term management. Safety and efficacy have not been established in Functional Class IV rheumatoid arthritis.

Contraindications: Individuals hypersensitive to it, or with the syndrome of nasal polyps, angioedema and bronchospastic reactivity to aspirin or other nonsteroidal anti-inflammatory agents (see WARNINGS).

Warnings: Anaphylactoid reactions have occurred in patients with aspirin hypersensitivity (see CONTRAINDICATIONS).

Peptic ulceration and gastrointestinal bleeding, sometimes severe, have been reported. Ulceration, perforation, and bleeding may end fatally. An association has not been established. Motrin should be given under close supervision to patients with a history of upper gastrointestinal tract disease, only after consulting ADVERSE REACTIONS.

In patients with active peptic ulcer and active rheumatoid arthritis, nonulcerogenic drugs, such as gold, should be tried. If Motrin must be given, the patient should be under close supervision for signs of ulcer perforation or gastrointestinal bleeding.

Precautions: Blurred and/or diminished vision, scotomata, and/or changes in color vision have been reported. If these develop, discontinue Motrin and the patient should have an ophthalmologic examination, including central visual fields.

Fluid retention and edema have been associated with Motrin; use with caution in patients with a history of cardiac decompensation.

Motrin can inhibit platelet aggregation and prolong bleeding time. Use with caution in persons with intrinsic coagulation defects and those on anticoagulant therapy.

Patients should report signs or symptoms of gastrointestinal ulceration or bleeding, blurred vision or other eye symptoms, skin rash, weight gain, or edema.

To avoid exacerbation of disease or adrenal insufficiency, patients on prolonged corticosteroid therapy should have therapy tapered slowly when Motrin is added.

Drug interactions. *Aspirin:* Used concomitantly may decrease Motrin blood levels.

Coumarin: Bleeding has been reported in patients taking Motrin and coumarin.

Pregnancy and nursing mothers: Motrin should not be taken during pregnancy nor by nursing mothers.

Adverse Reactions

Incidence greater than 1%

Gastrointestinal: The most frequent type of adverse reaction occurring with Motrin is gastrointestinal (4% to 16%). This includes nausea,² epigastric pain,² heartburn,² diarrhea, abdominal distress, nausea and vomiting, indigestion, constipation, abdominal cramps or pain, fullness of the GI tract (bloating and flatulence). **Central Nervous System:** Dizziness,² headache, nervousness. **Dermatologic:** Rash² (including maculopapular type), pruritus. **Special Senses:** Tinnitus. **Metabolic:** Decreased appetite, edema, fluid retention. Fluid retention generally responds promptly to drug discontinuation (see PRECAUTIONS).

²Incidence 3% to 9%.

Incidence less than 1 in 100

Gastrointestinal: Upper GI ulcer with bleeding and/or perforation, hemorrhage, melena. **Central Nervous System:** Depression, insomnia. **Dermatologic:** Vesiculobullous eruptions, urticaria, erythema multiforme. **Cardiovascular:** Congestive heart failure in patients with marginal cardiac function, elevated blood pressure. **Special Senses:** Amblyopia (see PRECAUTIONS). **Hematologic:** Leukopenia, decreased hemoglobin and hematocrit.

Causal relationship unknown

Gastrointestinal: Hepatitis, jaundice, abnormal liver function. **Central Nervous System:** Paresthesias, hallucinations, dream abnormalities. **Dermatologic:** Alopecia, Stevens-Johnson syndrome. **Special Senses:** Conjunctivitis, diplopia, optic neuritis. **Hematologic:** Hemolytic anemia, thrombocytopenia, granulocytopenia, bleeding episodes. **Allergic:** Fever, serum sickness, lupus erythematosus syndrome. **Endocrine:** Gynecomastia, hypoglycemia. **Cardiovascular:** Arrhythmias. **Renal:** Decreased creatinine clearance, polyuria, azotemia.

Overdosage: In cases of acute overdosage, the stomach should be emptied. The drug is acidic and excreted in the urine, so alkaline diuresis may be beneficial.

Dosage and Administration: Rheumatoid arthritis and osteoarthritis, including flares of chronic disease: Suggested dosage is 300, 400, or 600 mg t.i.d. or q.i.d. Mild to moderate pain: 400 mg every 4 to 6 hours as necessary for relief of pain.

Do not exceed 2400 mg per day.

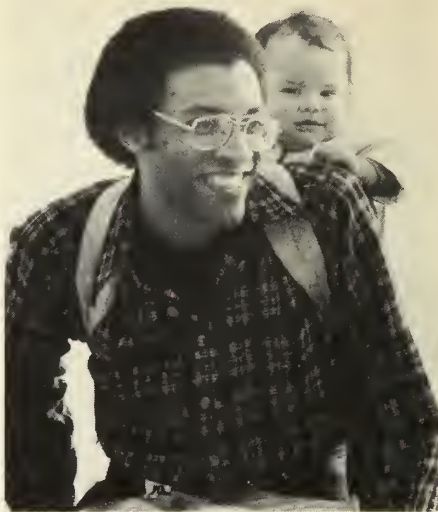
Caution: Federal law prohibits dispensing without prescription.

For additional product information, see your Upjohn representative or consult the package insert.

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MED B-4-S

WHY I'M A UNITED WAY VOLUNTEER



STEPHEN GRAHAM

Home: Seattle, Washington

Career: Attorney

Age: 29

Married: One daughter

Interests: Hiking, writing, cartooning, bicycling and volunteering for United Way

"Because there's more to my life than just me.

"Like being with my family. Hiking along the timberline. And getting involved in my community.

"Volunteering for United Way adds another dimension to my life. I'm putting my skills to work for the benefit of the entire community. And I'm meeting all kinds of people who are doing the same.

"Most important of all, I'm learning more about human care needs. And how—as a United Way volunteer—I can make a difference here in Seattle. It's a valuable lesson in leadership.

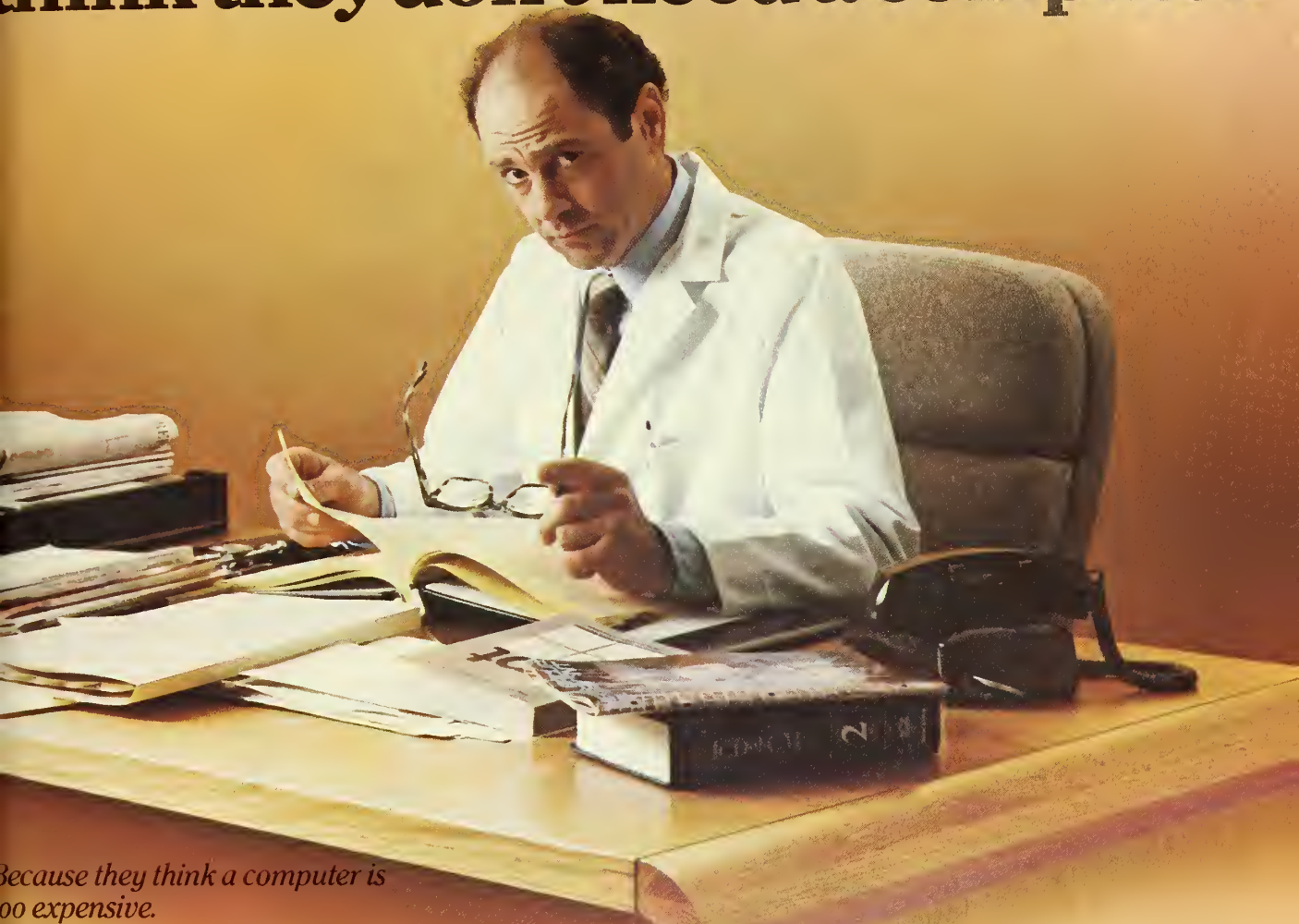
"By helping shape my community's future, through United Way, I'm more than just living my life. I'm fulfilling it."

**Thanks to you...
it works...**

for ALL OF US United Way



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works well in your office...

NEOSPORIN® Ointment (polymyxin B-bacitracin-neomycin)

Each gram contains: Aerosporin® (Polymyxin B Sulfate) 5,000 units, bacitracin zinc 400 units, neomycin sulfate 5 mg (equivalent to 3.5 mg neomycin base); special white petrolatum qs; in tubes of 1 oz and 1/2 oz and 1/32 oz (approx.) foil packets.

works just as well in their homes.

- It's effective therapy for abrasions, lacerations, open wounds, primary pyodermas, secondarily infected dermatoses.
- It provides broad-spectrum overlapping antibacterial effectiveness against common susceptible pathogens, including staph and strep.



- It helps prevent topical infections, and treats those that have already started.
- It contains three antibiotics that are rarely used systemically.
- It is convenient to recommend without a prescription.

NEOSPORIN® Ointment—for the office, for the home.
(polymyxin B-bacitracin-neomycin)

Effective • Economical • Convenient • Recommendable

Each gram contains: Aerosporin® (Polymyxin B Sulfate) 5,000 units, bacitracin zinc 400 units, neomycin sulfate 5 mg (equivalent to 3.5 mg neomycin base); special white petrolatum qs; in tubes of 1 oz and 1/2 oz and 1/32 oz (approx.) foil packets.

WARNING: Because of the potential hazard of nephrotoxicity and ototoxicity due to neomycin, care should be exercised when using this product in treating extensive burns, trophic ulceration and other extensive conditions where absorption of neomycin is possible. In burns where more than 20 percent of the body surface is affected, especially if the patient has impaired renal function or is receiving other aminoglycoside antibiotics concurrently, not more than one application a day is recommended.

When using neomycin-containing products to control secondary infection in the chronic dermatoses, it should be borne in mind that the skin is more liable to become sensitized to many substances, including neomycin. The manifestation of sensitization to neomycin is usually a low grade reddening with swelling, dry scaling and itching; it may be manifest simply as a failure to heal. During long-term use of neomycin-containing products, periodic examination for such signs is advisable and the patient should be told to discontinue the product if they are observed. These symptoms regress quickly on withdrawing the medication. Neomycin-containing applications should be avoided for that patient thereafter.

PRECAUTIONS: As with other antibacterial preparations, prolonged use may result in overgrowth of non-susceptible organisms, including fungi. Appropriate measures should be taken if this occurs.

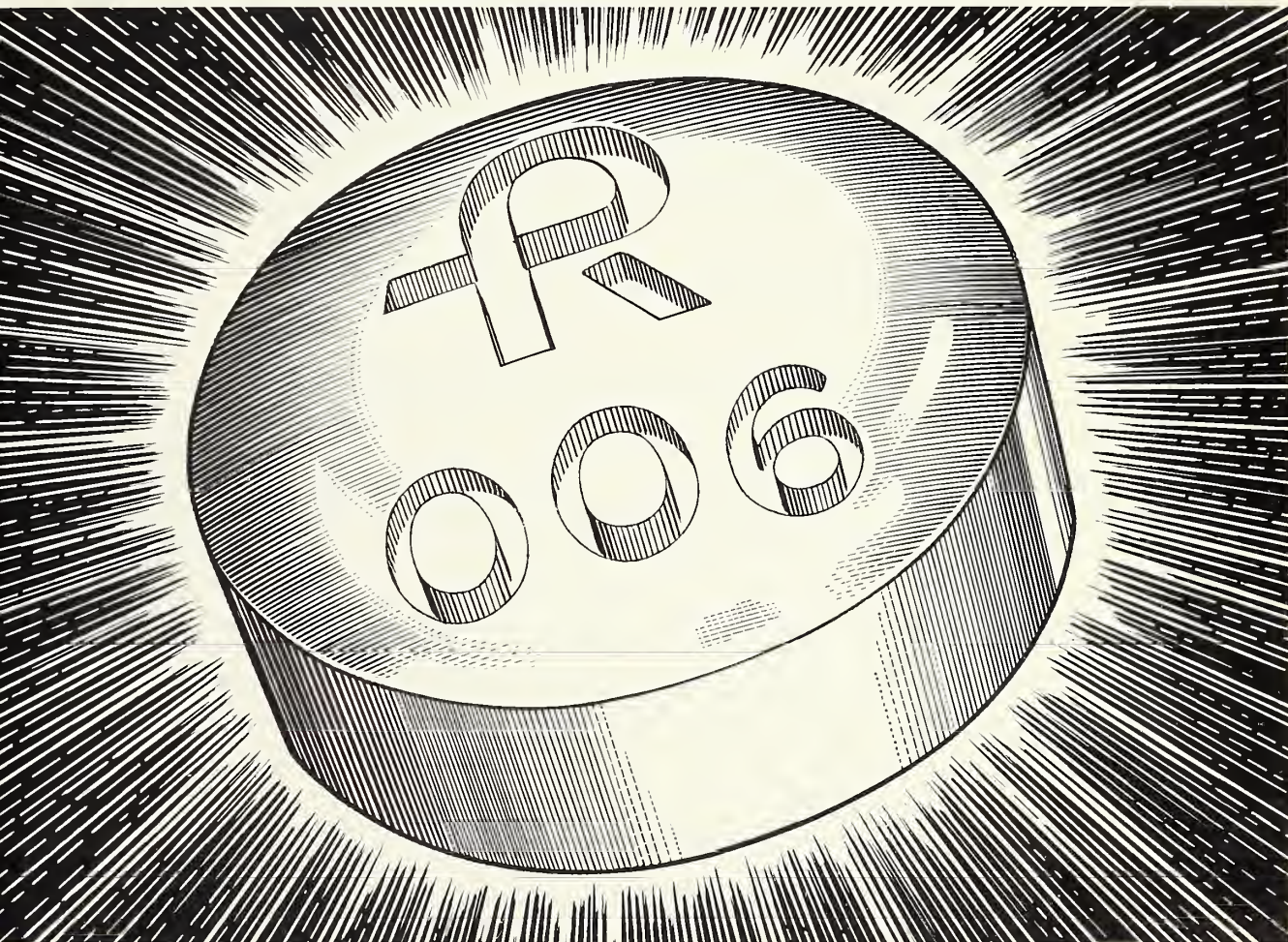
ADVERSE REACTIONS: Neomycin is a not uncommon cutaneous sensitizer. Articles in the current literature indicate an increase in the prevalence of persons allergic to neomycin. Ototoxicity and nephrotoxicity have been reported (see Warning section). Complete literature available on request from Professional Services Dept. PML.




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Will your generics need a lawyer?

Beware! Many state laws, now in effect or proposed, require the identification of product, strength and manufacturer on each solid doseform to be legal for generic substitution. If you dispense unidentified drugs, after effective date of legislation, you're dispensing in violation of such laws.



Purepac generics coded for legal substitution.

Purepac's coding system, to be phased in during 1981, will meet every state's legal requirements. Tablets and capsules will be imprinted with a code number and Purepac's symbol. This symbol  identifies a Purepac product. The code number designates the name of the product and its strength. For rapid identification, these code numbers will be listed in Purepac's catalog and the *Physician's Desk Reference*. This system provides instant identification which can prove useful in saving lives from accidental overdose.

Watch out for serious offenders.

Will your generic pharmaceutical supplier be able to meet all identification requirements—especially if that

supplier is not a manufacturer? Products not properly coded then violate the law! And by dispensing them, you're substituting illegally. And taking big risks.

Don't take chances. Be sure you're dispensing a legal generic. Be sure it's Purepac!



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DRAMATIC NEW CLINICAL PROOF*

In the treatment of impetigo—

- **100% cure rate with Tegopen®** (cloxacillin sodium)

- **only a 60% cure rate with penicillin V-K**



As seen on admission



After one week of penicillin V-K therapy



Two weeks after initiation of TEGOPEN therapy

Treatment failure was judged to have occurred when lesions increased in size and/or number during the initial week of treatment with penicillin V-K. No treatment failures occurred with Tegopen.

*Data on file, Bristol Laboratories.

Brief Summary of Prescribing Information

TEGOPEN®
(cloxacillin sodium)
Capsules and Oral Solution

For complete information, consult Official Package Circular.

(12) 9/11/75

INDICATIONS:

Although the principal indication for cloxacillin sodium is in the treatment of infections due to penicillinase-producing staphylococci, it may be used to initiate therapy in such patients in whom a staphylococcal infection is suspected. (See Important Note below.)

Bacteriologic studies to determine the causative organisms and their sensitivity to cloxacillin sodium should be performed.

IMPORTANT NOTE

When it is judged necessary that treatment be initiated before definitive culture and sensitivity results are known, the choice of cloxacillin sodium should take into consideration the fact that it has been shown to be effective only in the treatment of infections caused by pneumococci, Group A beta-hemolytic streptococci, and penicillin G-resistant and penicillin G-sensitive staphylococci. If the bacteriology report later indicates the infection is due to an organism other than a penicillin G-resistant staphylococcus sensitive to cloxacillin sodium, the physician is advised to continue therapy with a drug other than cloxacillin sodium or any other penicillinase-resistant semi-synthetic penicillin.

Recent studies have reported that the percentage of staphylococcal isolates resistant to penicillin G outside the hospital is increasing, approximating the high percentage of resistant staphylococcal isolates found in the hospital. For this reason, it is recommended that a penicillinase-resistant penicillin be used as initial therapy for any suspected staphylococcal infection until culture and sensitivity results are known.

Cloxacillin sodium is a compound that acts through a mechanism similar to that of methicillin against penicillin G-resistant staphylococci. Strains of staphylococci resistant to methicillin have existed in nature and it is known that the number of these strains reported has been increasing. Such strains of staphylococci have been capable of producing serious disease, in some instances resulting in fatality. Because of this, there is concern that widespread use of the penicillinase-resistant penicillins may result in the appearance of an increasing number of staphylococcal strains which are resistant to these penicillins.

Methicillin-resistant strains are almost always resistant to all other penicillinase-resistant penicillins (cross-resistance with cephalosporin derivatives also occurs frequently). Resistance to any penicillinase-resistant penicillin should be interpreted as evidence of clinical resistance to all, in spite of the fact that minor variations in *in vitro* sensitivity may be encountered when more than one penicillinase-resistant penicillin is tested against the same strain of staphylococcus.

CONTRAINDICATIONS

A history of a previous hypersensitivity reaction to any of the penicillins is a contraindication.

RESULTS OF ORAL THERAPY revealed a high percentage of treatment failures with penicillin V potassium, but *no* failures with Tegopen.

| | | Given Tegopen® (cloxacillin sodium) | Given penicillin V-K |
|--|---------------------|--|-------------------------|
| <i>Staphylococcus aureus</i> | (78 patients) | 39 | 39 |
| Returned to clinic at one week | | 29† | 38† |
| Treatment failure at one week | | 0 | 18 (47.4%) |
| <i>Staphylococcus aureus</i> and <i>Streptococcus pyogenes</i> | (9 patients) | 4 | 5 |
| Returned to clinic at one week | | 4 | 5 |
| Treatment failure at one week | | 0 | 2 (40%) |
| No initial bacterial growth | (14 patients) | 9 | 5 |
| All 14 healed, regardless of which antibiotic was administered. | | | |
| <i>Beta-hemolytic Streptococcus</i> | (1 patient) | 0 | 1 |
| TOTALS: | 102 patients | 52 patients | 50 patients |

†Eleven patients did not return for their one-week checkup. These were all called by telephone, and their families reported

the lesions had healed. One patient was dropped from the study, early, because of adverse reaction to medication.

STUDY: DESCRIPTION/PROTOCOL

- 102 nonselected subjects, with initial bacteriology as follows: 77% *Staphylococcus aureus*, 9% mixed *Staphylococcus aureus* and *Streptococcus pyogenes*, and 1% beta-hemolytic *Streptococcus*.†
- All patients were given randomized therapy—Tegopen capsules or oral solution, or penicillin V-K tablets or oral solution, in recommended dosages according to body weight.

- All patients were evaluated after one week's therapy. If there was no improvement, therapy was switched to the other antibiotic. The "other antibiotic" proved to be Tegopen 100% of the time because no treatment failures had occurred with Tegopen.
- A final assessment of progress was made two weeks after initiation of Tegopen therapy.

†The remainder, to equal 100%, consisted of 14 patients (13%) who exhibited no initial bacterial growth. These 14 were all healed, whether given Tegopen or penicillin V-K.

TEGOPEN®

(cloxacillin sodium)

-effective therapy for staph infections of the skin and skin structures

WARNING:

Serious and occasionally fatal hypersensitivity (anaphylactoid) reactions have been reported in patients on penicillin therapy. Although anaphylaxis is more frequent following parenteral therapy it has occurred in patients on oral penicillins. These reactions are more apt to occur in individuals with a history of sensitivity to multiple allergens.

There have been well documented reports of individuals with a history of penicillin hypersensitivity reactions who have experienced severe hypersensitivity reactions when treated with a cephalosporin. Before therapy with a penicillin, careful inquiry should be made concerning previous hypersensitivity reactions to penicillins, cephalosporins, and other allergens. If an allergic reaction occurs, the drug should be discontinued and the patient treated with the usual agents, e.g., pressor amines, antihistamines, and corticosteroids.

Safety for use in pregnancy has not been established.

PRECAUTIONS:

The possibility of the occurrence of superinfections with mycotic organisms or other pathogens should be kept in mind when using this compound, as with other antibiotics. If superinfection occurs during therapy, appropriate measures should be taken.

As with any potent drug, periodic assessment of organ system function, including renal, hepatic, and hematopoietic, should be made during long-term therapy.

ADVERSE REACTIONS:

Gastrointestinal disturbances, such as nausea, epigastric discomfort, flatulence, and loose

stools, have been noted by some patients. Mildly elevated SGOT levels (less than 100 units) have been reported in a few patients for whom pretherapeutic determinations were not made. Skin rashes and allergic symptoms, including wheezing and sneezing, have occasionally been encountered. Eosinophilia, with or without overt allergic manifestations, has been noted in some patients during therapy.

USUAL DOSAGE:

Adults: 250 mg. q. 6h.

Children: 50 mg./Kg./day in equally divided doses q. 6h. Children weighing more than 20 Kg. should be given the adult dose. Administer on empty stomach for maximum absorption.

N.B.: INFECTIONS CAUSED BY GROUP A BETA-HEMOLYTIC STREPTOCOCCI SHOULD BE TREATED FOR AT LEAST 10 DAYS TO HELP PREVENT THE OCCURRENCE OF ACUTE RHEUMATIC FEVER OR ACUTE GLOMERULONEPHRITIS.

SUPPLIED:

Capsules—250 mg. in bottles of 100, 500 mg. in bottles of 100.

Oral Solution—125 mg./5 ml. in 100 ml. and 200 ml. bottles.

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Division of Bristol-Myers Company
Syracuse, New York 13201

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BEST BECAUSE:

We were the *only* company willing to provide coverage in North Carolina when *all* other competitors were refusing to renew any existing insureds or issue any new business during the malpractice crisis of 1975.

All policy decisions and guidance are provided by North Carolina physicians elected each year by you our policyholders to serve in your interest as our Board of Directors.

As a direct writer representing only you, MLMIC's overhead and administrative expenses consistently average less than 50% of competitions. This leaves more money out of each premium dollar to pay losses.

Rating experience is being compiled that provides competitive rates based on the actual experience of our North Carolina insureds.

FOR MANY OTHER REASONS WHY MLMIC IS BEST FOR YOU:

CALL OR WRITE

MEDICAL LIABILITY MUTUAL INSURANCE COMPANY

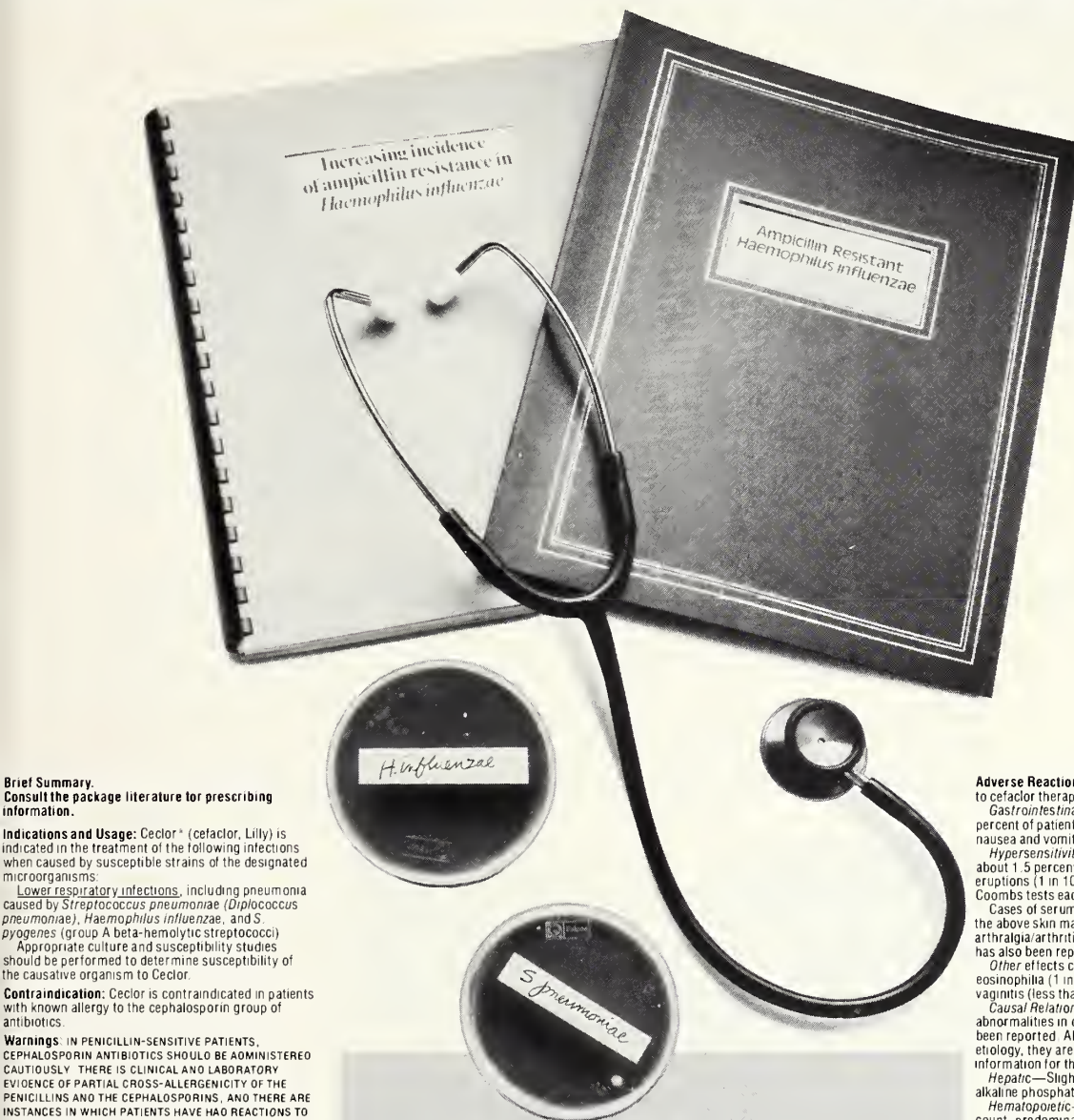
MARKETING DEPARTMENT

222 N. Person Street, P.O. Box 27285

Raleigh, North Carolina 27611

PHONES: Raleigh 828-9334 or Statewide 1-800-662-7917

An added complication... in the treatment of bacterial bronchitis*



Brief Summary. Consult the package literature for prescribing information.

Indications and Usage: Ceclor* (cefactor, Lilly) is indicated in the treatment of the following infections when caused by susceptible strains of the designated microorganisms:

Lower respiratory infections, including pneumonia caused by *Streptococcus pneumoniae* (*Diplococcus pneumoniae*), *Haemophilus influenzae*, and *S. pyogenes* (group A beta-hemolytic streptococci). Appropriate culture and susceptibility studies should be performed to determine susceptibility of the causative organism to Ceclor.

Contraindication: Ceclor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics.

Warnings: IN PENICILLIN-SENSITIVE PATIENTS. CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY. THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS, AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIONS TO BOTH DRUG CLASSES (INCLUDING ANAPHYLAXIS AFTER PARENTERAL USE).

Antibiotics, including Ceclor, should be administered cautiously to any patient who has demonstrated some form of allergy, particularly to drugs.

Precautions: If an allergic reaction to cefactor occurs, the drug should be discontinued, and, if necessary, the patient should be treated with appropriate agents, e.g., pressor amines, antihistamines, or corticosteroids.

Prolonged use of cefactor may result in the overgrowth of nonsusceptible organisms. Careful observation of the patient is essential. If superinfection occurs during therapy, appropriate measures should be taken.

Positive direct Coombs tests have been reported during treatment with the cephalosporin antibiotics. In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coombs testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs test may be due to the drug.

Ceclor should be administered with caution in the presence of markedly impaired renal function. Under such a condition, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended.

As a result of administration of Ceclor, a false-positive reaction for glucose in the urine may occur. This has been observed with Benedict's and Fehling's solutions and also with Clinitest® tablets but not with Tes-Tape® (Glucose Enzymatic Test Strip, USP, Lilly).

Usage in Pregnancy:—Although no teratogenic or antifertility effects were seen in reproduction studies in mice and rats receiving up to 12 times the maximum human dose or in ferrets given three times the maximum human dose, the safety of this drug for use in human pregnancy has not been established. The benefits of the drug in pregnant women should be weighed against a possible risk to the fetus.

Usage in Infancy:—Safety of this product for use in infants less than one month of age has not been established.

Some ampicillin-resistant strains of *Haemophilus influenzae*—a recognized complication of bacterial bronchitis*—are sensitive to treatment with Ceclor.¹⁻⁶

In clinical trials, patients with bacterial bronchitis due to susceptible strains of *Streptococcus pneumoniae*, *H. influenzae*, *S. pyogenes* (group A beta-hemolytic streptococci), or multiple organisms achieved a satisfactory clinical response with Ceclor.⁷

Ceclor®

cefactor

Pulvules®, 250 and 500 mg

Adverse Reactions: Adverse effects considered related to cefactor therapy are uncommon and are listed below. *Gastrointestinal* symptoms occur in about 2.5 percent of patients and include diarrhea (1 in 70) and nausea and vomiting (1 in 90).

Hypersensitivity reactions have been reported in about 1.5 percent of patients and include morbilliform eruptions (1 in 100). Pruritus, urticaria, and positive Coombs tests each occur in less than 1 in 200 patients.

Cases of serum-sickness-like reactions, including the above skin manifestations, fever, and arthralgia/arthritis, have been reported. Anaphylaxis has also been reported.

Other effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients).

Causal Relationship Uncertain:—Transitory abnormalities in clinical laboratory test results have been reported. Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician.

Hepatic:—Slight elevations in SGOT, SGPT, or alkaline phosphatase values (1 in 40).

Hematopoietic:—Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40).

Renal:—Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200).

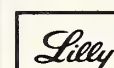
*Many authorities attribute acute infectious exacerbation of chronic bronchitis to either *S. pneumoniae* or *H. influenzae*.⁸

Note: Ceclor* (cefactor) is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients.

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever. See prescribing information.

References

1. Antimicrob. Agents Chemother., 8:91, 1975.
2. Antimicrob. Agents Chemother., 11:470, 1977.
3. Antimicrob. Agents Chemother., 13:584, 1978.
4. Antimicrob. Agents Chemother., 12:490, 1977.
5. Current Chemotherapy (edited by W. Siegenthaler and R. Luthy), II: 880. Washington, D.C.: American Society for Microbiology, 1978.
6. Antimicrob. Agents Chemother., 13:861, 1978.
7. Data on file, Eli Lilly and Company.
8. Principles and Practice of Infectious Diseases (edited by G. L. Mandell, R. G. Douglas, Jr., and J. E. Bennett), p. 487. New York: John Wiley & Sons, 1979.



Additional information available to the profession on request from Eli Lilly and Company, Indianapolis, Indiana 46285.

Eli Lilly Industries, Inc., Carolina, Puerto Rico 00630

Announcing: **127th**

Annual Session of the North Carolina Medical Society

May 7-10, 1981

Pinehurst Hotel, Pinehurst, N.C.

Golf and other recreation! Fun! Fellowship!

Plan early to attend by requesting registration information and hotel reservation forms from NCMS, Box 27167, Raleigh, NC 27611. Tel. (919) 833-3836.



HIGHLIGHTS:

- **HOUSE OF DELEGATES**
Thursday, May 7—10:00 a.m. (First Session)
Saturday, May 9—2:00 p.m. (Second Session)
- **GENERAL SESSIONS**
Friday, May 8—9:00 a.m.-12:30 p.m.
Saturday, May 9—9:00 a.m.-12:30 p.m.
- **SPECIALTY SECTION MEETINGS**
- **ALUMNI LUNCHEONS AND DINNERS**
- **TECHNICAL EXHIBITS**
- **PRESIDENT'S DINNER AND
INSTALLATION OF OFFICERS**

CME CREDIT

General Sessions — 6 credit hours — Category I.

Specialty Section Meetings — Hour for hour credit in Category I for scientific portion of the Special Section meetings.

A NEW ADMINISTRATION -- A NEW CHALLENGE

AT THE AMERICAN MEDICAL ASSOCIATION
WE'RE INVOLVED IN MEETING
THE IMPORTANT CHALLENGES AND
RESPONSIBILITIES OF THE 80's.
This is the third in a series of reports on
major issues facing the medical profession. The purpose is to
inform physicians and medical students on what the AMA is
doing, on behalf of the profession and the public, to influence
decisions that will affect health care in the next decade and beyond.

The conservative swing in the 1980 federal elections is bound to change the perspective on major health-care issues—in Congress as well as in the Administration. BUT . . . the issues will persist, and their disposition cannot be taken for granted.

So for you as a physician or medical student, what happens in the nation's capital will remain an urgent concern.

Cost of care will remain a key issue, and a pervasive one. Industry and business—which bulk large in the conservative constituency—are up in arms over the cost rise in employee health benefits.

While the conservative credo is anti-regulation, there's this to consider: If taxes are to be cut (as promised) and defense spending is to be increased (as promised), any balancing of the federal budget (as promised) could demand cost controls on health programs.

Here are some other matters to think about:

- *Funding for HHS*—the Department of Health and Human Services. In the prospective budget-tightening, how much money would be available for health programs other than "entitlement" programs (such as Medicare/Medicaid) that have to be paid for?
- *Health planning*. President Reagan called for an end to the federal involvement in health planning (a position also taken by the AMA House of Delegates). Will Congress go along?
- *National Health Insurance*. Any effectual move for NHI presumably would stress catastrophic coverage financed primarily through the private sector of the economy. To restrain costs, would there also be

features aimed at intensifying competition among health insurers and among health-care providers?

- *HMOs*—Health Maintenance Organizations. A call for intensified competition in the health-care industry could enhance the status of HMOs as a competitive vehicle. The government might assist them through tax benefits or pressure on employers to offer HMO coverage. (The AMA wants the government to be strictly neutral toward the various modes of health-care delivery—and leave any preference to the consumer.)
- *PSRO* (Professional Standards Review Organizations): The prevailing sentiment in top circles of the new Administration points to an anti-PSRO stance as part of their anti-regulation stance. What alternatives, if any, might Congress consider?
- *Medical education and manpower*. What would general budget-tightening leave for federal funding of medical schools, medical training, and the National Health Service Corps? Particularly in view of the physician-surplus forecasts that emanated from the Carter Administration.

To sum up, the basic directions in Washington, D.C., during the next four years do not necessarily add up to a clear and trouble-free future for the medical profession and patient care.

Only the AMA can give coherence and cohesion to your profession's ability to deal with the prospect. The Association has 43 personnel in Washington and Chicago whose activities include legislative research and analysis, preparation of testimony and other comment to Congress and the Administration, drafting of legislation, or lobbying. The fiscal-1981 budget for their activities totals almost \$3 million.

You need their expertise and effort. To sustain and advance their activities, the AMA needs additional membership, including yours. The current membership (230,000) carries us so far; yours would carry us further.

We need YOU . . . if we're to give you all the help that you need.

For details on how to join, contact your state or county medical society or the Office of Membership Development, American Medical Association, 535 N. Dearborn, Chicago, IL 60610 (312) 751-6410.

Pioneers in Medicine For the Family



BOOTS PHARMACEUTICALS, INC.

Operating in the U.S. since 1977, Boots is a world-wide leader in pharmaceutical research and manufacture. Boots has directed its efforts toward providing products useful in the practice of family medicine.

Some of our better known products are Lopurin™, Ru-Tuss® and Ru-Vert®. This advertisement highlights four other products particularly useful for the family.

F-E-P CREME® • **SU-TON®** • **TWIN-K®** • **TWIN-K-CI™**



For the Majority of
Steroid-Responsive Dermatoses*
Seen in Family Practice

F-E-P CREME®

(Iodochlorhydroxyquin — Pramoxine HCl — Hydrocortisone)

The 4 in 1 Corticosteroid Cream

Anti-inflammatory, antifungal, antibacterial actions, and, uniquely, a topical anesthetic for immediate relief of the itching or burning that frequently accompanies skin problems. One size (½ ounce), one strength for ease of prescription.

*This drug has been evaluated as possibly effective for these indications.
See prescribing information on last page of this advertisement.

For the Geriatric Patient

SU-TON®

Liquid Tonic

A pleasant tasting prescription tonic containing iron, vitamins, minerals, an analeptic and 18% alcohol. Ideal for those who may benefit from vitamin deficiency prevention. Just one tablespoon before each meal.

Each 45 ml (3 tablespoonfuls) contains:

| | |
|--|-----|
| Pentylentetrazol. | 30 |
| Niacin. | 50 |
| Vitamin B-1. | 10 |
| Vitamin B-2. | 10 |
| Vitamin B-6. | 5 |
| Vitamin B-12. | 1 |
| Choline. | 3 m |
| Inositol. | 100 |
| Manganese (as Manganese Sulfate). | 50 |
| Magnesium (as Magnesium Sulfate). | 1 |
| Zinc (as Zinc Sulfate). | 2 |
| Iron (as Ferric Pyrophosphate, Soluble). | 1 |
| Alcohol. | 22 |

See prescribing information on last page of this advertisement.



For Potassium Supplementation Improved Compliance...

TWIN-K®

Each 15 ml supplies 20 mEq of potassium ions as a combination of potassium gluconate and potassium citrate in a sorbitol and saccharin solution.

The good tasting potassium supplement
Designed for prophylactic and therapeutic use
with diuretics and adrenocorticoids.
Pleasant taste and convenient dosage aid
patient compliance.

The organic salt of potassium can be given as a
liquid without producing significant gastric
symptoms and without an untoward effect on
the mucosa of the small intestine.¹

¹W. H. Harrison-McDermott, Textbook of Medicine, 15th Ed. 1979, W.B. Saunders Co., Philadelphia, page 1959.

In Cases with Chloride Deficiency...

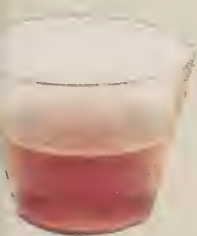
TWIN-K-CI™

Each 15 ml supplies 15 mEq of potassium ions and 4 mEq of chloride ions as a combination of potassium gluconate, potassium citrate, and ammonium chloride in a sorbitol and saccharin solution.

The good tasting potassium supplement with
chloride

- In hypokalemic hypochloremic alkalosis, chloride ions are required. Twin-K-CI is specially formulated to be a good tasting chloride containing potassium supplement.
- Contains no potassium chloride. Twin-K-CI is a carefully balanced combination of organic potassium salts plus ammonium chloride.
- In hypochloremic patients, potassium should be provided as the chloride salt, or chloride ion must be made available in some other form, such as ammonium chloride or sodium chloride.¹

See prescribing information on last page of this advertisement.



F-EP CREME

DESCRIPTION

F-EP Creme is a topical water soluble anti-inflammatory, anesthetic preparation intended for treatment of various inflammatory skin disorders. The drug contains the following active ingredients:

| | |
|-------------------------|------|
| Iodochlorhydroxyquin | 3.0% |
| Pramoxine Hydrochloride | 0.5% |
| Hydrocortisone | 1.0% |

INDICATIONS AND USAGE

Based on a review of this drug by the National Academy of Sciences-National Research Council and/or other information, FDA has classified the indications as follows: "Possibly" effective. Contact or atopic dermatitis; impetiginized eczema; nummular eczema; infantile eczema; endogenous chronic infectious dermatitis; stasis dermatitis; pyoderma; nuchal eczema and chronic eczematoid otitis externa; acne urtica; localized or disseminated neurodermatitis; lichen simplex chronicus; anogenital pruritus (vulvae, scroti, ani); folliculitis; bacterial dermatoses; mycotic dermatoses such as tinea (capitis, cruris corporis, pedis); moniliasis; intertrigo. Final classification of the less-than-effective indications requires further investigation.

Pramoxine Hydrochloride promptly relieves pain and itch. This compound may be used safely on the skin of those patients sensitive to the "caine" type local anesthetics.

CONTRAINDICATIONS

Hypersensitivity to F-EP Creme, or any of its ingredients or related compounds, lesions of the eye, tuberculosis of the skin, most viral skin lesions (including herpes simplex, vaccinia and varicella).

WARNINGS

This product is not for ophthalmic use.

In the presence of systemic infections, appropriate antibiotics should be used.

USE IN PREGNANCY

Topical steroids have not been reported to have an adverse effect on pregnancy. However, fetal abnormalities have been produced in pregnant laboratory animals that have been exposed to large doses of topical corticosteroids. Drugs of this class should not be used extensively during pregnancy.

PRECAUTIONS

F-EP Creme may be irritating to the skin in some patients. If irritation occurs discontinue therapy. Staining of clothes or hair may also occur with use of this preparation. Although systemic toxicity has not been reported with this drug, adrenal pituitary suppression is possible, especially when the drug is used extensively or kept under an occlusive dressing for a prolonged period.

Iodochlorhydroxyquin can be absorbed through the skin and interfere with thyroid function tests. Therapy with this preparation should stop at least a month before performance of these tests. The ferric chloride test for phenylketonuria (PKU) can be positive if F-EP Creme is on the diaper or in the urine.

Prolonged use of this drug may result in an overgrowth of non-susceptible organisms requiring appropriate therapy.

ADVERSE REACTIONS

Skin rash or hypersensitivity may occur following topical application.

The following local adverse reactions have been reported with topical corticosteroids, especially under occlusive dressings: burning, itching, irritation, dryness, folliculitis, hypertrichosis, acneiform eruptions, hypopigmentation, perioral dermatitis, allergic contact dermatitis, maceration of the skin, secondary infection, skin atrophy, striae, miliaria. Discontinue therapy if untoward reactions occur.

DOSEAGE AND ADMINISTRATION

Apply a thin layer of the drug to affected parts 3-4 times daily.

Note:

1. F-EP Creme is distributed with 3.0% iodochlorhydroxyquin for use when antibacterial/antifungal activity is desired.
2. F-EP Creme (Plain) is the regular formulation, but without iodochlorhydroxyquin.

Both of these preparations contain pramoxine hydrochloride, which has topical anesthetic properties. Pramoxine is not chemically related to benzoic acid or amide type topical anesthetics. Patients can tolerate pramoxine although they may be sensitive to other "caine" type of topical or local anesthetics.

HOW SUPPLIED

F-EP Creme 1/2 ounce (15 gm) tubes NDC 0524-0026-51
F-EP Creme Plain 1/2 ounce (15 gm) tubes NDC 0524-0025-51
Federal law prohibits dispensing without a prescription.
July 1980

SU-TON®

DESCRIPTION

Forty-five milliliters of SU-TON contain the following ingredients:

| | |
|---|--------|
| Pentylenetetrazol | 30 mg |
| Niacin | 50 mg |
| Vitamin B-1 | 10 mg |
| Vitamin B-2 | 5 mg |
| Vitamin B-6 | 1 mg |
| Vitamin B-12 | 3 mcg |
| Choline | 100 mg |
| Inositol | 50 mg |
| Manganese (as Manganese Sulfate) | 1 mg |
| Magnesium (as Magnesium Sulfate) | 2 mg |
| Zinc (as Zinc Sulfate) | 1 mg |
| Iron (as Ferric Pyrophosphate, Soluble) | 22 mg |
| Alcohol | 18% |

INDICATIONS AND USAGE

SU-TON contains pentylenetetrazol which may be helpful in the older patient as an anesthetic agent when mental confusion and memory defects are present. SU-TON also contains vitamins, trace minerals, and iron, for those patients who may benefit by preventing the development of a deficiency.

CONTRAINDICATIONS

Epilepsy, convulsive disorders or known history of sensitivity to any of the listed active ingredients.

WARNINGS

The safety of this preparation during pregnancy and lactation has not been established. Use of this drug requires that the physician evaluate the potential benefits of the drug against any possible hazard to the mother and child.

CONTRAINDICATIONS

Although there are no absolute contraindications to pentylenetetrazol, it should be used with caution in epileptic patients or those known to have a low convulsive threshold or a focal brain lesion. Caution should be exercised when treating patients with high doses of SU-TON who have heart disease. While pentylenetetrazol does not act directly on the myocardium, the results from central vagal stimulation could cause bradycardia.

ADVERSE REACTIONS

Pentylenetetrazol in high doses may produce toxic symptoms typical of central nervous system stimulants, which act on the higher motor centers and the spinal cord. Convulsions resulting from this drug are spontaneous and are not induced by external stimuli. They usually last for several minutes and are followed by profound depression and respiratory paralysis. Death has been reported from the ingestion of 10 grams of pentylenetetrazol.

DRUG ABUSE

Drug dependence has not been reported with SU-TON.

OVERDOSEAGE

Signs and symptoms of acute overdose may be due principally from overstimulation of the central nervous system and from excessive vasodilatation with resulting autonomic nervous system imbalance. The symptoms may include the following: vomiting, agitation, tremors, hyperreflexia, sweating, confusion, hallucinations, headache, hyperpyrexia, tachycardia. Treatment consists of appropriate supportive measures. If signs and symptoms are not too severe and the patient is conscious, gastric evacuation may be accomplished by induction of emesis or gastric lavage.

Intensive care must be provided to maintain adequate circulation and respiratory exchange.

DOSEAGE AND ADMINISTRATION

One tablespoonful (15 ml) 3 times a day 20-30 minutes before meals. This drug is not for use in children under 12 years of age.

HOW SUPPLIED

Bottles of 473 ml (16 fl oz) NDC 0524-0015-16
Federal law prohibits dispensing without prescription.
February 1980

TWIN-K

DESCRIPTION

Each 15 milliliter (one tablespoonful) supplies 20 mEq of potassium ions as a combination of potassium gluconate and potassium citrate in a sorbitol and saccharin solution.

INDICATIONS AND USAGE

For use as oral potassium therapy in the prevention or treatment of hypokalemia which may occur secondary to diuretic or corticosteroid administration. It may be used in the treatment of cardiac arrhythmias due to digitalis intoxication.

CONTRAINDICATIONS

Severe renal impairment with oliguria or azotemia, untreated Addison's disease, adynamia episodica hereditaria, acute dehydration, heat cramps and hyperkalemia from any cause. This product should not be used in patients receiving aldosterone antagonists or triamterene.

WARNINGS

TWIN-K (potassium gluconate and potassium citrate) is a palatable form of oral potassium replacement. It appears that little if any potassium gluconate-citrate penetrates as far as the jejunum or ileum where enteric coated potassium chloride lesions have been noted. Excessive, undiluted doses of TWIN-K may cause a saline laxative effect.

To minimize gastrointestinal irritation, it is recommended that TWIN-K be taken with meals or diluted with water or fruit juice. A tablespoonful (15 ml) in 8 ounces of water is approximately isotonic. More than a single tablespoonful should not be taken without prior dilution.

PRECAUTIONS

Potassium is a major intracellular cation which plays a significant role in body physiology. The serum level of potassium is normally 3.8-5.0 mEq/liter. While the serum or plasma level is a poor indicator of total body stores, a plasma or serum level below 3.5 mEq/liter is considered to be indicative of hypokalemia. The most common cause of hypokalemia is excessive loss of potassium in the urine. However, hypokalemia can also occur with vomiting, gastric drainage and diarrhea.

Usually a potassium deficiency can be corrected by oral administration of potassium supplements. With normal kidney function, it is difficult to produce potassium intoxication by oral administration. However, potassium supplements must be administered with caution since, usually, the exact amount of the deficiency is not accurately known. Checks on the patient's clinical status and periodic EKG and/or serum potassium levels should be made. High serum potassium levels may cause death by cardiac depression, arrhythmias or arrest.

In patients with hypokalemia who also have alkalosis and a chloride deficiency (hypokalemic hypochloremic alkalosis), there will be a requirement for chloride ions. TWIN-K is not recommended for use in these patients.

ADVERSE REACTIONS

Symptoms of potassium intoxication include paresthesias of the extremities, flaccid paralysis, listlessness, mental confusion, weakness and heaviness of the legs, fall in blood pressure, cardiac arrhythmias and heart block. Hyperkalemia may exhibit the following electrocardiographic abnormalities: disappearance of the P wave, widening and slurring of the QRS complex, changes of the ST segment and tall peaked T waves.

TWIN-K taken on an empty stomach in undiluted doses larger than 30 ml can produce gastric irritation with nausea, vomiting, diarrhea, and abdominal discomfort.

OVERDOSEAGE

The administration of oral potassium supplements to persons with normal kidney function rarely causes serious hyperkalemia. However, if the renal excretory function is impaired, potentially fatal hyperkalemia can result. It is important to note that hyperkalemia is usually asymptomatic and may be manifested only by an increased serum potassium concentration with or without EKG changes. Treatment measures include:

1. Elimination of potassium containing drugs or foods.
2. Intravenous administration of 300 to 500 mEq/hr of a 10% dextrose solution containing 10-20 units of crystalline insulin per 1000 milliliters.
3. Correction of acidosis.
4. Use of exchange resins or peritoneal dialysis.

In treating hyperkalemia, it should be noted that patients stabilized on digitalis can develop digitalis toxicity when the serum potassium concentration is changed too rapidly.

DOSEAGE AND ADMINISTRATION

The usual adult dosage is one tablespoonful (15 ml) in 6-8 fluid ounces of water or fruit juice, two to four times a day. This will supply 40 to 80 mEq of potassium ions. The usual preventative dose of potassium is 20 mEq per day while therapeutic dose range from 30 mEq to 100 mEq per day. Because of the potential for gastrointestinal irritation, undiluted large single doses (30 mEq or more) of TWIN-K are to be avoided.

Deviations from this schedule may be indicated, since no average total daily dose can be defined, but must be governed by clinical observation for clinical effects.

HOW SUPPLIED

Bottles of 1 pint (16 fl oz)

NDC 0524-002

CAUTION

Federal law prohibits dispensing without prescription.
July 1980

TWIN-K-Cl™

DESCRIPTION

Each 15 ml (one tablespoonful) supplies 15 mEq of potassium ions and 4 mEq of chloride ions as a combination of potassium gluconate, potassium citrate, and ammonium chloride, in a sorbitol and saccharin solution.

INDICATIONS

For use as oral potassium therapy in the prevention or treatment of hypokalemia which may occur secondary to diuretic or corticosteroid administration. It may be used in the treatment of cardiac arrhythmias due to digitalis intoxication.

Potassium and chloride are usually the salts of choice in the treatment of hypokalemia since chloride and potassium deficiency are likely to be associated with each other.

CONTRAINDICATIONS

Severe renal impairment with oliguria or azotemia, untreated Addison's disease, adynamia episodica hereditaria, acute dehydration, heat cramps and hyperkalemia from any cause. This product should not be used in patients receiving aldosterone antagonists or triamterene.

WARNINGS

TWIN-K-Cl is a palatable form of oral potassium replacement. Excessive, undiluted doses of TWIN-K-Cl may cause a saline laxative effect.

To minimize gastrointestinal irritation, it is recommended that TWIN-K-Cl be taken with meals or diluted with water or fruit juice. A tablespoonful (15 ml) in 8 ounces of water is approximately isotonic. More than a single tablespoonful should not be taken without prior dilution.

PRECAUTIONS

Potassium is a major intracellular cation which plays a significant role in body physiology. The serum level of potassium is normally 3.8-5.0 mEq/liter. While the serum or plasma level is a poor indicator of total body stores, a plasma or serum level below 3.5 mEq/liter is considered to be indicative of hypokalemia. The most common cause of hypokalemia is excessive loss of potassium in the urine. However, hypokalemia can also occur with vomiting, gastric drainage and diarrhea.

Usually a potassium deficiency can be corrected by oral administration of potassium supplements. With normal kidney function, it is difficult to produce potassium intoxication by oral administration. However, potassium supplements must be administered with caution since, usually, the exact amount of the deficiency is not accurately known. Checks on the patient's clinical status and periodic EKG and/or serum potassium levels should be made. High serum potassium levels may cause death by cardiac depression, arrhythmias or arrest.

In patients with hypokalemia who also have alkalosis and a chloride deficiency (hypokalemic hypochloremic alkalosis), there will be a requirement for chloride ions. TWIN-K-Cl is recommended for use in these patients.

ADVERSE REACTIONS

Symptoms of potassium intoxication include paresthesias of the extremities, flaccid paralysis, listlessness, mental confusion, weakness and heaviness of the legs, fall in blood pressure, cardiac arrhythmias and heart block. Hyperkalemia may exhibit the following electrocardiographic abnormalities: disappearance of the P wave, widening and slurring of the QRS complex, changes of the ST segment and tall peaked T waves.

TWIN-K-Cl taken on an empty stomach in undiluted doses larger than 30 ml can produce gastric irritation with nausea, vomiting, diarrhea, and abdominal discomfort.

OVERDOSEAGE

The administration of oral potassium supplements to persons with normal kidney function rarely causes serious hyperkalemia. However, if the renal excretory function is impaired, potentially fatal hyperkalemia can result. It is important to note that hyperkalemia is usually asymptomatic and may be manifested only by increased serum potassium concentration with or without EKG changes.

Treatment measures include:

1. Elimination of potassium containing drugs or foods.
2. Intravenous administration of 300 to 500 mEq/hr of a 10% dextrose solution containing 10-20 units of crystalline insulin per 1000 milliliters.
3. Correction of acidosis.
4. Use of exchange resins or peritoneal dialysis.

In treating hyperkalemia, it should be noted that patients stabilized on digitalis can develop digitalis toxicity when the serum potassium concentration is changed too rapidly.

DOSEAGE AND ADMINISTRATION

The usual adult dosage is one tablespoonful (15 ml) in 6-8 fluid ounces of water or fruit juice, two to four times a day. This will supply 30 to 60 mEq of potassium ions and 8 to 16 mEq of chloride ions. The usual preventative dose of potassium is 20 mEq per day while therapeutic doses range from 30 mEq to 100 mEq per day. Because of the potential for gastrointestinal irritation, undiluted large single doses (30 ml or more) of TWIN-K-Cl are to be avoided.

Deviations from this schedule may be indicated, since no average total daily dose can be defined, but must be governed by clinical observation for clinical effects.

HOW SUPPLIED

Bottles of 1 pint (16 fl oz)

NDC 0524-002

MANUFACTURED & DISTRIBUTED BY

Boots Pharmaceuticals, Inc.

Shreveport, Louisiana 71106

Pioneers in Medicine For the Family



Committee on Anesthesia Study Anesthetic-Related Deaths: 1969-1976

Albert A. Bechtoldt, Jr., M.D.

ABSTRACT From 1969 to 1976, over two million anesthetics were administered in North Carolina. The Anesthesia Study Committee received reports of about 900 perioperative deaths and judged that 90 of these were, to a certain extent, related to the administration of an anesthetic. These 90 are analyzed according to time of occurrence, the initial sign of trouble, the operative site, the age of the patient, the anesthetic risk, and the administrator of the anesthetic. Our definition of anesthetic-related death and the difficulties in obtaining information are discussed.

ANYONE who administers anesthesia should anticipate a successful anesthetic, in which the patient is no worse afterwards than before.¹ Unfortunately, there are numerous ways in which the anesthetic management can be detrimental to a patient. The Anesthesia Study Committee (ASC) was established by the North Carolina Medical Society to discover ways to reduce morbidity and mortality in the perioperative period. This report summarizes the findings of this committee over the eight-year period from 1969 to 1976, and suggests some areas of particular concern.

METHODS

Information Gathering

Two sources were used to obtain the names of patients who died in

the perioperative period — death certificates sent from the Bureau of Vital Statistics and death certificates sent from the Medical Examiner's office.

The Bureau of Vital Statistics of the State Board of Health identified death certificates that mentioned an operative procedure and forwarded copies to the study committee. If, after superficial review by the committee, it appeared that the anesthetic might have played a role in a death, a questionnaire was sent to the administrator of that anesthetic, who was requested to complete it and return it to the chairman of the committee for evaluation. If the anesthetist felt that anesthesia played a role in the death, or if the account suggests that anesthesia may have played such a role, all of the information was brought before the 10 physicians on the ASC for discussion and final judgment. Names of the individuals and hospitals involved were removed and code numbers assigned in order to make the reports anonymous.

In order to overcome some problems with these procedures, the Medical Examiner (ME) system was established in late 1971. By law, all deaths during surgery must be reported to the ME who certifies the cause of death. In North Carolina's legal system, operating room deaths come under the ME's investigative area of unusual deaths. The degree to which the ME investigates a death is obviously determined by individual and local circumstances. The data resulting from the ME investigation is assessed by the study committee along with data from the

routine death certificate and the questionnaire.

Definitions and Criteria

Several factual and philosophical considerations complicate attempts to derive a precise definition of anesthesia-related deaths. First, one must define the interrelationships of three factors: (1) the patient and his disease or state of health, (2) the surgical procedure or operation, and (3) the anesthetic that is being administered. Second, one must define the relative importance of these three factors — or the role each played. That is, did a factor play a sole, contributory, or coincidental role? Sometimes, one does play an obvious role, but more often, determination of the cause of death is quite difficult.^{2,3}

At one end of this spectrum anesthesia may be the sole cause of death. Here, a mishap occurs and the patient's disease and operative procedure play no part in death. An example would be esophageal intubation of a healthy patient leading to death before the surgical procedure starts. At the other end, anesthesia is associated with a death but really plays no role in the death, as is the case in the moribund patient: as a patient in shock from a ruptured aortic aneurysm that cannot be repaired. The anesthetic is simply coincidental with the death. In the mid-spectrum, the anesthetic contributes to the death but the patient's disease or the surgical procedure also plays a role. Such was the case in most of the reports we received. Therefore, the ASC had to decide which was the most important factor. In this report, we

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have included anesthesia as the sole cause of death, and anesthesia as the major contributing factor. Therefore, we prefer to use the term anesthetic-related death rather than anesthetic death — which would denote anesthesia as the sole cause of death.

Next, to make the problem even more complex, criteria defining an anesthetic had to be established. Our definition can be divided into six areas: (1) Type (2) Location (3) Administrator (4) Time interval or period (5) Operation or surgical procedure (6) Patient disease.

1. Type. The types of anesthetics considered in this report include general, regional, local infiltration, and intravenous sedation in conjunction with a procedure. All phases of perioperative management from preoperative patient evaluation to postoperative care are also considered including choice of anesthetic technique, drugs and their administration and monitoring, and the interaction of anesthetic and non-anesthetic drugs.

2. Location. Although the anesthetic is usually given in the operating room, there is no limitation to the operating room in this report. Other sites include the delivery room, cystoscopy clinic, emergency room and x-ray department.

3. Administrator. There is no limitation in this report as to who gave the anesthetic. Included were Certified Registered Nurse Anesthetists (CRNA), anesthesiologists, a combination of CRNA and anesthesiologists, surgeons, and dentists. Residents and nurses in training were not reported separately here, however, but rather according to the title of their supervisor.

4. Time interval. There is no agreement concerning the time period during which anesthesia can be considered as a cause of death. Most of the anesthetic-related deaths reported here occurred in the operating room or in the first 12 hours after anesthesia. However, some occurred as long as several months after the anesthetic, either as a sequelae of a cardiac arrest or injury at the time of the anesthetic, or as a possible consequence of a metabolic effect of the anesthetic.

Thus, we placed no limitations for the anesthetic related deaths in this report. However, in a practical sense, the longer the time period between the anesthetic and the death, the greater the uncertainty regarding the role of anesthesia.

5. Surgical procedure or operation. We placed no limitations on the type of operation being performed. Included are diagnostic procedures, "minor procedures," all the way to open heart surgery. Obviously, high risk procedures can be difficult to evaluate and their risk can far outweigh the role of anesthesia. Nevertheless, a high risk procedure does not exclude the possibility of an anesthetic complication. Likewise, we did not try to separate elective procedures from emergency procedures. The definition of emergency cannot be agreed to because there are many degrees of emergency, or urgency.

6. Patient risk. Again, we placed no limitations on patient risk, and all classes of the American Society of Anesthesia (ASA) Physical Status are represented in this report. The ASA Physical Status classification was developed 40 years ago to allow assessment of patient risk of withstanding the stress of anesthesia and surgery.^{4,5} Patients are divided into five classes based entirely on the severity of their system disease(s) ranging from the Class 1 healthy patient to the Class 5 moribund patient not expected to live more than 24 hours. A patient with mild or moderate systemic disease, such as hypertension, would fit into Class 2, while a patient with severe systemic disease, such as hypertension and an old myocardial infarction, would be in Class 3. The Class 4 patient is one whose death is likely but who should survive more than 24 hours. Obviously, the high risk imposed by disease can far outweigh that of the anesthetic in a death. Nevertheless, a high risk patient does not exclude the possibility of an anesthetic complication.

RESULTS

Between 1969 and 1976, the ASC received reports of slightly over 100 perioperative deaths per year, or about 900 in the eight-year period.

Slightly more than 200 of these deaths occurred in operating rooms. From the information that we have received, the ASC has determined that 90 perioperative deaths in North Carolina have had a significant relationship to the administration of anesthesia. In other words, anesthesia has been the sole or significant contributing factor in about 11 deaths annually.

To find some patterns in these 90 deaths, we analyzed them first in terms of aspects of the anesthetic; second, in terms of two aspects concerning the patient; and third, in terms of one aspect concerning the surgical procedure.

Anesthetic

Analysis of the 90 anesthetic-related deaths as they related to the anesthetic was made according to (1) the initial sign of trouble in relation to the time of death and (2) the incidence of death among the various groups who administered the anesthetic.

Time of Death. We defined an intraoperative period and a postoperative period. The intraoperative period was subdivided into the "induction" period before the incision was made and the "during surgery" period after the incision was made. The postoperative period was subdivided into the period where the initial cardiac arrest leading to the death occurred in the "operating room" and the period of cardiac arrest and death in the postoperative "recovery period." These distinctions were found to be important in demonstrating trends in the causes of anesthetic-related deaths.

Of the 90 anesthetic-related deaths, about half occurred in the operating room, of which 19 occurred on induction, and 28 during

TABLE I
Anesthetic-Related Deaths: 1969-1976

| Time of death | |
|----------------------------|----|
| Intraoperative | 47 |
| Induction | 19 |
| During surgery | 28 |
| Post-operative | 43 |
| Cardiac arrest in surgery | 10 |
| Cardiac arrest in recovery | 33 |
| Total | 90 |

TABLE II
Anesthetic-Related Deaths: 1969-1976
Initial signs attributed to deaths in the operating room

| | Induction | Intraoperative |
|-------------------------------------|-----------|----------------|
| A. Cardiovascular | 16 | 16 |
| 1. Hypotension | 14 | 9 |
| 2. Arrhythmia | 2 | 2 |
| 3. Myocardial infarction or failure | 0 | 4 |
| 4. Air embolus | 0 | 1 |
| B. Pulmonary | 3 | 9 |
| 1. Esophageal intubation | 1 | 0 |
| 2. Aspiration | 1 | 0 |
| 3. Bronchospasm | 1 | 1 |
| 4. Inadequate ventilation | 0 | 6 |
| 5. "Respiratory arrest" | 0 | 2 |
| C. Patient unobserved | 0 | 1 |
| D. Unknown | 0 | 2 |
| Total | 19 | 28 |

surgery (Table I). The other half were recorded in the postoperative period. Ten had a cardiac arrest in the operating room, but died later and 33 had cardiac arrest and death in the recovery period.

The cause of death during each of these time periods, as in any unexpected death, was usually impossible to define, but the initial signs or symptoms of trouble show some interesting patterns. The data in Tables II and III show a distinctive overall pattern.

In 47 intraoperative anesthetic related deaths, cardiovascular problems as the initial sign of trouble were noted in 32 (75%) of the deaths (Table II), particularly on induction where cardiovascular problems were the initial sign of disaster in almost 90% of the deaths. The most common cardiovascular problem was hypotension — present in half (23 of 47) of the operating room deaths. Hypotension represented the interaction of a multitude of anesthetic drugs, both for general and regional anesthesia. In some deaths, preoperative hypovolemia was suspected. In others there was an unexplained or unexpected adverse response to an ordinary dose of a commonly used drug. Beyond this statement of response, further analysis becomes controversial. In five deaths, hypotension followed a change in position of the anesthetized patient, such as to the lateral, kidney, and prone positions. Although hypotension with change in position is not surprising, since anesthetics do depress the autonomic nervous system, and limit the

cardiovascular system's ability to react to change in position, death in these patients was not anticipated.

In four patients, fatal arrhythmias followed the administration of an anesthetic drug or followed an otherwise uneventful intubation. These were the first signs of disaster and were unexpected.

Included were four patients whose recent myocardial infarctions were documented at autopsy, but either whose history had been ignored or who did not have recent electrocardiograms. On the other hand, not included in this study were several patients who had silent infarctions, documented at autopsy, but who had recent normal electrocardiograms. This emphasizes the need for a good preoperative patient evaluation as well as the

value of an autopsy after an unexpected death.

Air embolism producing cardiovascular difficulties is common in head and neck surgery with the patient in the sitting position. Standards for monitoring and treating these patients have been established.⁶ We determined to include this type of death due to the lack of adherence to these standards as an error in anesthetic management and not to the air embolus itself.

Pulmonary problems as a cause of unexpected anesthetic-related deaths in the operating room were not as common (12 of 47) as cardiovascular difficulties. Eight of these 12 appeared to be related to anesthetic management, either inadequate ventilation or oxygenation (6) or intubation management (2). The other four appeared related to the interrelationship of anesthetic drug to patient producing bronchospasm or sudden respiratory arrest. Unfortunately, in almost every instance of suspected inadequate ventilation, findings were subjective and arterial blood gas concentrations were not determined.

In one unfortunate incident a patient under general anesthesia was left unobserved due to another emergency. The situation that produced this death has been corrected.

Finally, there were two deaths that could not be explained by those

TABLE III
Anesthetic-Related Deaths: 1969-1976
Initial signs attributed to deaths in the recovery period

| | Cardiac arrest in: | Operating room | Recovery period |
|-------------------------------------|--------------------|----------------|-----------------|
| A. Cardiovascular | | 5 | 5 |
| 1. Hypotension | 2 | 0 | |
| 2. Arrhythmia | 2 | 0 | |
| 3. Myocardial infarction | 0 | 5 | |
| 4. Air embolus | 1 | 0 | |
| B. Pulmonary | | 4 | 19 |
| 1. Inadequate ventilation | 4 | 9 | |
| 2. Aspiration | 0 | 6 | |
| 3. Upper airway obstruction | 0 | 3 | |
| 4. Pulmonary edema | 0 | 1 | |
| C. Temperature | | 0 | 3 |
| 1. Malignant hyperthermia | 0 | 2 | |
| 2. Hypothermia | 0 | 1 | |
| D. Neurological | | 0 | 3 |
| 1. Delayed awakening, unknown cause | 0 | 2 | |
| 2. ?Cerebral vascular accident | 0 | 1 | |
| E. ?Halothane hepatitis | | 0 | 2 |
| F. Unknown | | 1 | 1 |
| Total | | 10 | 33 |

present. Information provided to us was not sufficient for us to assign a cause or initial sign, other than to say that the death was not related to the patient's health or to the operation.

Of the 43 postoperative anesthetic-related deaths, 10 occurred after a cardiac arrest in the operating room (Table III). Five presented with cardiovascular problems, four with pulmonary problems, namely inadequate ventilation, and one with unknown cause or initial sign. The pattern of these 10 deaths is similar to those observed in the operating room.

Of the 33 true postoperative anesthetic-related deaths, the initial signs of disaster were predominantly pulmonary, 19 of the 33 (60%). Half were related admittedly to inadequate ventilation and were often associated with obesity and use of muscle relaxants. Another

sizable group died from aspiration, usually occurring during the intra-operative period but not treated postoperatively according to usual standards of practice.⁷ Anesthetic management was involved here, often not due to the aspiration *per se* since the possibility was known, precautions usually taken, and the mishap identified, but more often due to the lack of evaluation and treatment, i.e., intubation and ventilatory support, until cardiac arrest.

The three upper airway obstruction problems were suspected, although inadequate ventilation could have been the primary cause rather than the result of obstruction.

Three deaths resulted from temperature problems, two with malignant hyperthermia who died in the early postoperative period. There was no mention of a cardiac arrest in the operating room. The other pa-

tient, neonate having bowel surgery, whose temperature was not monitored in the operating room, developed hypothermia and subsequently died.

Of the three patients with neurological problems, two were slow in awakening and one had a possible cerebral vascular accident as the initial signs of trouble. No causal explanation could be given.

Deaths possibly attributable to halothane hepatitis occurred in the year when this entity was unduly publicized. Although extensively investigated, it was impossible for us to come to a definite conclusion concerning these cases. Thus, we followed the opinion of those who submitted the report.

Groups Administering Anesthetics. We tabulated the number of anesthetic-related deaths among these groups giving the anesthetic: (1) the Certified Registered Nurse

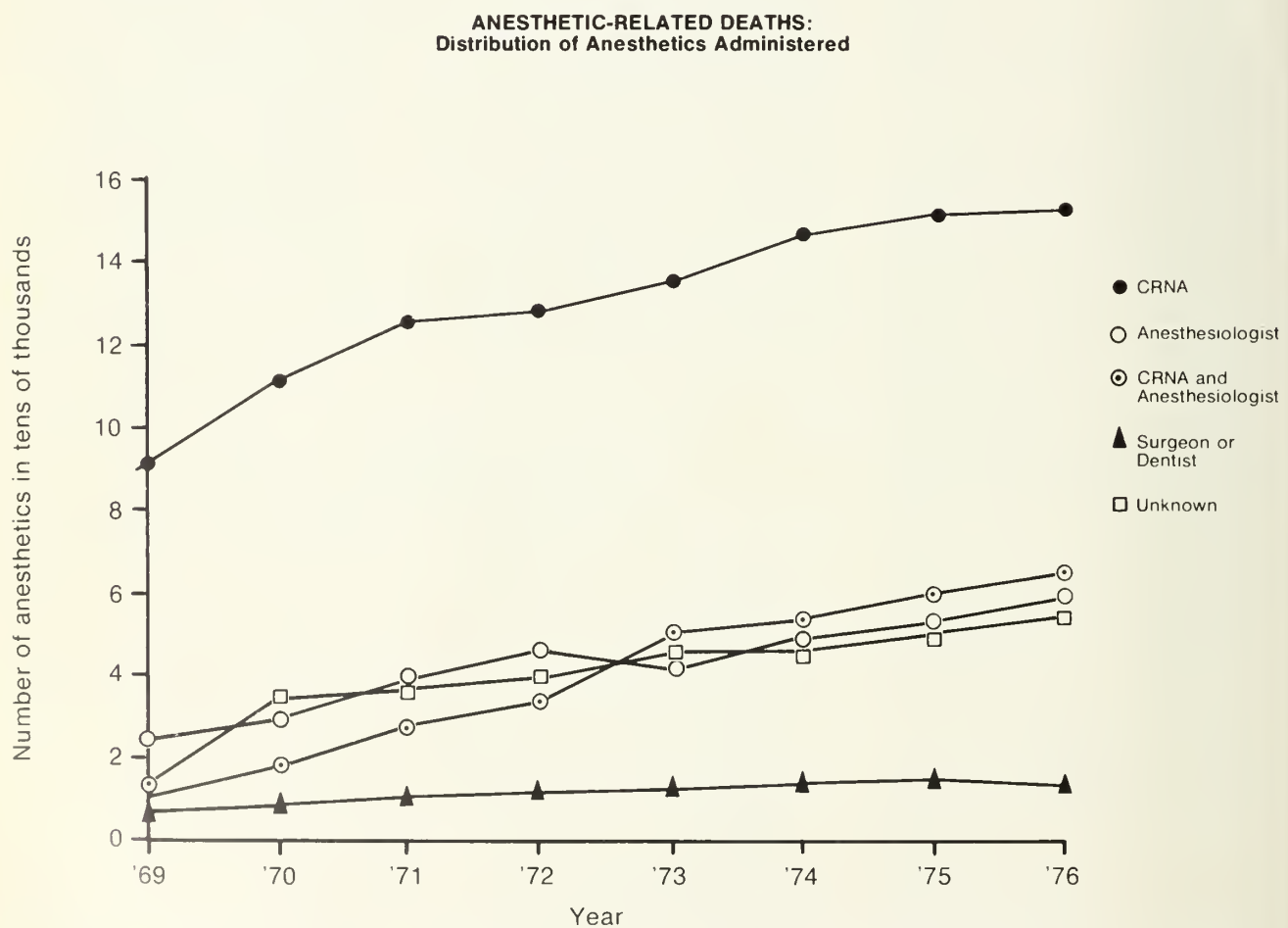


Fig. 1. The total number of anesthetics administered each year by each group administering the anesthetic, as defined in the text, is shown here. CRNA = Certified Registered Nurse Anesthetist

Comparison of Anesthetics Administered to Anesthetic-Related Deaths

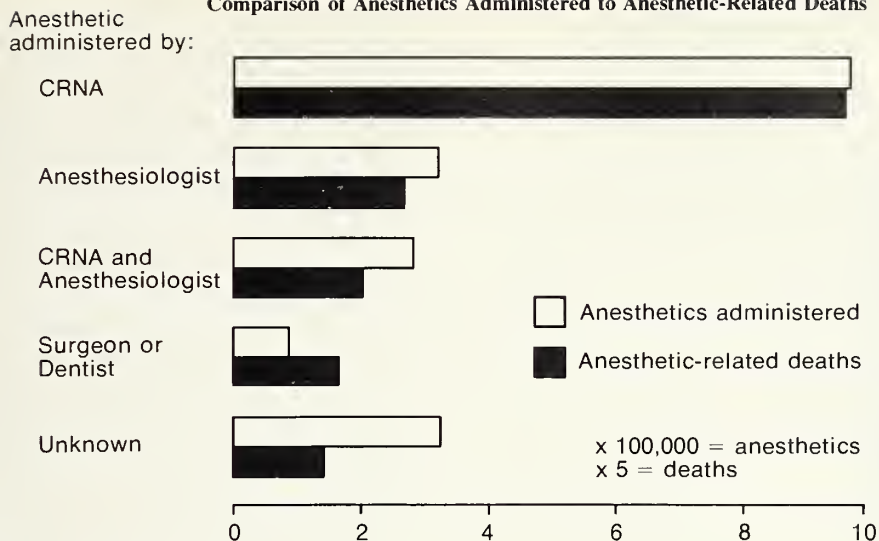


Fig. 2. The total number of anesthetics administered by each group as defined in the text is compared to the number of anesthetic-related deaths reported for the same group. CRNA = Certified Registered Nurse Anesthetist.

Anesthetist working alone, (2) the anesthesiologist working alone, (3) the combination of CRNA and anesthesiologist working together, (4) the surgeon or dentist giving the anesthetic with or without monitoring the patient, and (5) an "unknown" group. The unknown group usually was attributed to a deficiency in record keeping. Those in training in a CRNA or residency program were assigned to a group according to their supervisors.

Next, we surveyed all of the hospitals in North Carolina to determine the number of anesthetics given by these groups. From 1969 to 1976, over two million anesthetics were administered in North Carolina. Their distribution is shown in Figure 1.

Therefore, when we calculated the incidence of anesthetic-related deaths for each group which administered the anesthetic (Figure 2),

TABLE IV
Incidence of Anesthesia-Related Deaths to Anesthetics Administered

| | |
|---------------------------|----------|
| CRNA | 1:20,723 |
| Anesthesiologist | 1:24,500 |
| CRNA and Anesthesiologist | 1:28,166 |
| Surgeon/Dentist | 1:11,432 |
| Unknown | 1:47,914 |
| Average | 1:23,486 |

CRNA = Certified Registered Nurse Anesthetist

we found that the incidence among the three major groups (the CRNA, the anesthesiologist, and the combination of CRNA and anesthesiologist) to be rather similar. Although the CRNA working alone accounted for about half of the anesthetic-related deaths, the CRNA working alone also accounted for about half of the anesthetics administered. Numerically, about one death occurred for about 24,000 anesthetics administered by each of these three major groups (Table IV). There is some deviation from this pattern with the smaller groups (surgeon/dentist and unknown), but we question the validity of the statistics for these groups since hospital record-keeping in this area, particularly

ANESTHETIC-RELATED DEATHS:
Anesthetic-related deaths related to age

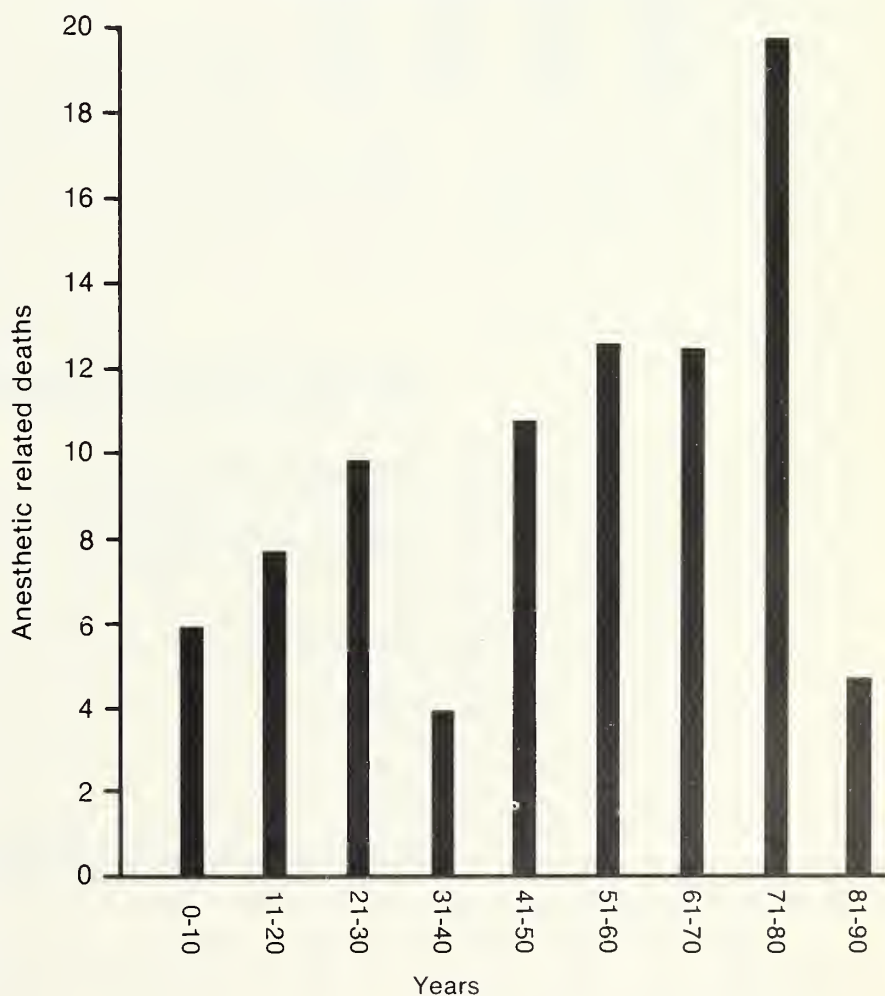


Fig. 3

ANESTHETIC-RELATED DEATHS Anesthetic-Related Deaths Related to ASA Physical Status

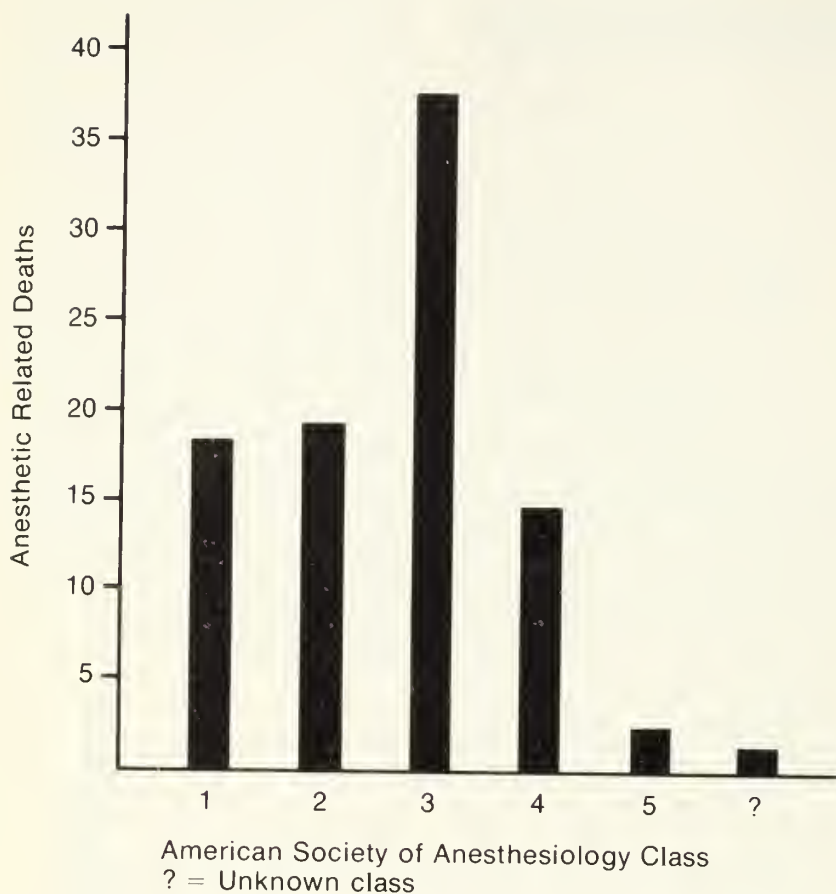


Fig. 4

the anesthetic, the number of anesthetic-related deaths increases with increasing risk (Figure 4). Again, this may mean that the patient with greater risk (poorer health) has less reserve to tolerate anesthesia and surgery, but it may also mean that more anesthetics are given to these sicker patients. Such information could not be derived in this study. Thus the incidence of anesthetic-related deaths according to ASA physical status cannot be determined. However, the increased mortality with increasing risk is known.^{8,9} The low number of anesthetic-related deaths in the ASA physical status Class 4 and 5 groups most likely indicates that the patient's disease was more significant than anesthesia in most deaths. Also, it may mean that there were fewer operations performed in these groups, or that greater attention or care was given to the patient.

Operation

These deaths were analyzed in relationship to the operative site (Figure 5). Most of the deaths (almost 40%) occurred in intra-abdominal procedures. A fairly common problem during intra-abdominal procedures was the inadequacy of ventilation, particularly

with minor procedures, proved to be poor.

Patient

Analysis of the 90 anesthetic-related deaths was made according to the two variables available to us — (1) patient age, and (2) ASA physical status.

Patient Age. The number of anesthetic-related deaths increases as patient age increases (Figure 3). This may mean that the older patient is less able to tolerate the stress of anesthesia and surgery; but it may also mean that more anesthetics are given to these patients. Data about these variables were not available to us, so we could not correlate the incidence of anesthetic-related deaths with age. However, increased mortality with increased age is known.⁸

ASA Physical Status. In those patients who are expected to survive

ANESTHETIC-RELATED DEATHS Anesthetic-related deaths related to the major operative site

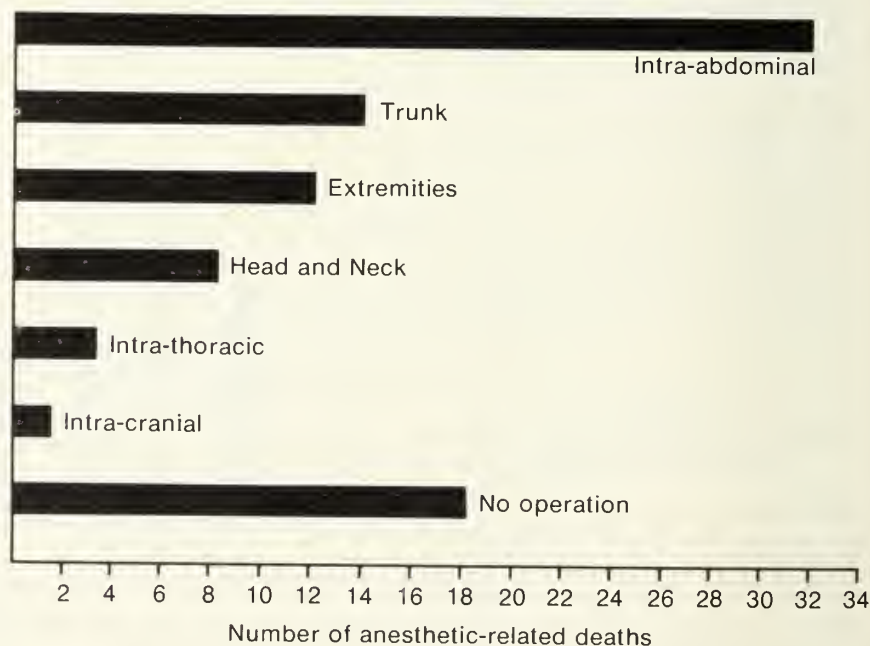


Fig. 5

postoperatively. Reasons included obesity, residual effects of muscle relaxants and other anesthetic agents, and the overall effect of abdominal surgery on ventilation. In retrospect, this points out the need for better monitoring and more adequate post-operative ventilation.

Unfortunately, we do not know the number of intra-abdominal procedures performed and cannot determine the relative incidence of anesthetic-related deaths in this group, although the number of anesthetic-related deaths is divided equally between upper and lower abdominal procedures. However, there is at least one report of an increased mortality with intra-abdominal surgery.¹⁰

DISCUSSION

Two deficiencies in this report should be pointed out: Not all perioperative deaths are reported to the ASC, and insufficient data were available for some deaths.

We learned that not all deaths were reported. If a surgical procedure was not noted on the death certificate, the Bureau of Vital Statistics did not forward a copy of the death certificate to the ASC. After the Medical Examiner System was instituted in late 1971, all operating

room deaths should have been reported to us. Nevertheless, notification of a death to the ME, and his certification, are voluntary. There are times when an operative death is reported to us by one system or the other, but not by both, but this is becoming less frequent.

The contribution of information by those involved with the care of the patient was voluntary, also. The questionnaires which we sent out could be answered inadequately, or not at all. However, during the years of this study, about 70% of our requests for information were answered sufficiently to be included in this study. The ME system shows promise of producing an even better response. The ME not only adds additional information to our study, but also stimulates better participation by those involved. Only if everyone is concerned will this committee produce adequate information for analysis.

This also applies to the study of anesthetics administered in North Carolina. We received information, most often complete, from about 80% of the hospitals in the state. Since the total numbers were large, and the response rate fairly similar, we felt that the rough estimate of one anesthetic-related death per

24,000 anesthetics administered was rather accurate. Others^{8,11,12} have reported from 1:14,000 to 1:850 deaths per anesthetics where anesthesia was the primary cause, and from 1:4,000 to 1:400 deaths per anesthetics where anesthesia was contributory.

Again, there is no standard definition of an anesthetic-related death. If there were standard criteria, more accurate comparisons could be made.

ACKNOWLEDGMENT

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Broadbent's Sign

By the kind permission of the physicians at the Brompton Hospital I am permitted to publish the notes of four cases now under their care in the wards, in each of which there is visible retraction, synchronous with the cardiac systole, of the left back in the region of the eleventh and twelfth ribs, and in three of which there is also systolic retraction of less degree in the same region of the right back. In all these cases there is a definite history of pericarditis, and in three of them there are other conditions strongly suggesting an adherent pericardium. The only means of causing this retraction on both sides seems to be the diaphragm, which, if pulled upon, would have more effect on the floating eleventh and twelfth ribs than on the more fixed ones. In cases of large heart with adherent pericardium there is a considerable area of the ventricles closely adherent to the central tendon of the diaphragm, and the powerful contraction of the hypertrophied heart must give a decided tug to this structure. That it should affect the ribs more often on the left side would be expected from the adhesion being mainly to the left of the middle line; the liver also, which is often large in these cases, may restrain the movement on the right. — Walter Broadbent, 1895.

A Definitive History of the Raleigh Academy of Medicine

Alexander Webb, Jr., M.D.

ON January 5, 1870, at the home of Dr. Charles E. Johnson, Drs. William T. Hill, E. Burke Haywood, William Little, Richard Haywood and Wisconsin I. Royster met to form the Raleigh Academy of Medicine. The founding of this organization is detailed in the minutes of the academy, which do not divulge what had taken place among the doctors in the months before they reached a formal agreement. It was unanimously recognized that an organization should be founded that would enable practitioners of medicine to discuss the problems, treatment and prognoses they all faced.

Dr. Haywood, long recognized as a leader in the medical profession and promulgator of the academy, was called upon to read the proposed constitution and by-laws. Article II of the Constitution stated the academy's objectives: The cultivation of the science of medicine; the advance of the character and honor of the profession; the elevation of the standards of medical education; and the promotion of the public health. From this beginning, honorable traditions evolved and became firmly established over the years.

When one contemplates those unsettled times, it is a small wonder that these men should be thinking of a lofty undertaking beyond the simple survival that the times de-

manded. The Civil War had drained the South, and the Union troops provided the only law enforcement. Congress had determined that the South would pay dearly for its behavior; civil strife was rampant and the South was reeling from the destruction of its political and social system. The ever present fact was that these doctors were not only the educated elite but that they also stood above and apart from the efforts of politicians in a struggle to make a better world.

After the founding meeting, it was decided that the academy would meet monthly and on call of the president, if needed, and that such meetings would be rotated among the members at their homes. During the first years of the academy, this rotation was followed, with each member in sequence acting as host.

During its second year, members suggested that a suitable hall should be engaged for their meetings. In the fall of 1872, a hall was found and for two years, the academy met in a building on the northwest corner of Fayetteville and Martin Streets, but in March, 1875, the academy relinquished the use of the hall. For the next 25 years, various members' offices were used. As the city grew, members tended to locate their offices close to one another; in the early days, on West Morgan Street, later on North Wilmington Street, and lastly at the Tucker Building on the northwest corner of Fayetteville and Martin Streets. The doctors moved en masse to the Professional Building in 1929 except for a few

who were located outside this center.

The meetings were strictly conducted according to the parliamentary procedure of the time. Each meeting was presided over by the president who called it to order. The secretary then called the roll and read the minutes of the preceding meeting. New members were voted on as they were proposed. The subject for discussion was introduced by the Committee to Choose Subjects and usually a member was designated to lead the discussion, commonly a clinical subject which was then discussed, with each member stating his mode of therapy. It is of interest that when the academy was young, its members advocated vigorous purgation and catharsis but 20 years later considered that too many drugs were being used. After discussion, other aspects of the profession were considered and either an opinion was expressed by the academy or a committee was appointed to investigate and report later.

The minutes recorded when a member had been derelict in the eyes of his colleagues. If an offense were grave enough, it could lead to expulsion of a member, an extreme penalty suffered by at least three persons who were expelled for "conduct unbecoming a gentleman." The academy and its members had high ideals and the fortitude and character to uphold them when circumstances demanded.

Such was the case in the summer of 1909. Dr. A. W. Goodwin had

been a member for several years. It came to the knowledge of the president, Dr. A. W. Knox, that the Wake County Medical Society had voted to rescind the license of Dr. Goodwin for four cases of prolonged treatment when not indicated by the diagnosis. The county society had investigated each episode completely and so Dr. Knox wrote Dr. Goodwin that he had been found guilty by the county society and it was imperative that he resign from the academy. Dr. Goodwin ignored the letter, so Dr. Knox wrote another. The secretary also wrote after his expulsion was voted on by the academy. Dr. Goodwin replied, demanding a hearing which was held before the Board of Censors of the academy in August. Hearsay had it that Dr. Goodwin appeared with two loaded pistols in holsters at his side. Appearing with him were two respected lawyers who demanded that they be included in the hearing. The chairman of the Board of Censors, Dr. Wisconsin I. Royster, stated that the committee was in reality a fact-finding committee and this was not a trial. There followed much legal eloquence, but the committee ruled that the lawyers were not to participate so they were dismissed. The Board of Censors reported to the full membership and Dr. Goodwin was expelled by unanimous vote. Thus, although the academy was right in its attitude of censoring its members, it was not without a human side. After several years, Dr. Goodwin was approached by several members who offered to vote for his reinstatement as a member, which duly followed.

At the first meeting of the academy, Dr. E. Burke Haywood proposed that the old Confederate hospital, then a barracks for the union soldiers and east of the city, be used as a city hospital. A committee was appointed, but its approach to the Union officers came to naught. By 1875, Union medical officers were attending meetings of the academy and entering into the discussions which were unsuccessful. By 1892, the academy was approached by the trustees of John Rex's will suggesting that a hospital

for indigent women and children be established. The trustees had invested rather heavily in Confederate bonds and what remained of a large estate left in 1849 by Rex, a bachelor tanner who had died rich, was a single piece of land on West Lenoir Street in a low lying area ill suited for a hospital. The trustees then approached the State Board of Health about the matter. So the Supreme Court ruled that paying patients as well as the indigent could be treated at such a hospital.

The women of Good Shepherd Church had purchased an old house on West South Street at the end of Salisbury Street for a hospital, called St. John's, for indigent women and children. When it appeared that this hospital would not survive, they sold this edifice to Rex Hospital for a pittance. Thus, Rex Hospital was founded in 1849 when the trustees were selected according to Rex's will. It was built in 1893, enlarged in 1906, and moved to a new location on St. Mary's Street in 1939. It was moved recently to more commodious facilities on the corner of Blue Ridge Road and Lake Boone Trail.

Equally important to the academy members was their desire to be adequately paid. A concrete example of this resulted in 1872 in the Fee Bill which spelled out in detail just how much should be charged for a visit. It further stated that only under dire circumstances should a lump sum be considered for the treatment of one disease. In 1878, charges for a life insurance examination were included in the Fee Bill.

In 1893, after derogatory remarks by Dr. P. F. Hines, Dr. Hubert Haywood felt that his father had been denigrated as he lay dying. Bitter enmity between Dr. A. W. Knox and Dr. Hines followed, an attitude persisting for over six months when Dr. Knox made a public apology which was accepted by Dr. Hines. This conflict arose during discussion as to whether benevolent organizations were in fact insurance companies and whether the Fee Bill for examination should be allowed.

The Wake County Medical Soci-

ety, formed in 1903, had over the years assumed importance to all members of the profession and as it became more prominent, the influence of the academy waned until it became a voluntary medical society. Its influence was further diminished in 1939, when a bill was to be introduced in the legislature to allow any member of the Wake County Medical Society to be eligible for membership to the staff of Rex Hospital. Threat of legislation led the board of trustees of Rex Hospital to pass a resolution that any member of the Wake County Medical Society was eligible for membership on the staff of Rex Hospital.

In 1949, when the morale of the Academy seemed to be at its lowest, Dr. John S. Rhodes proposed that a one-day symposium be given each fall by the academy. His suggestion was enthusiastically received by the membership and the first symposium was held that November with a good attendance by physicians from surrounding counties.

These yearly symposia drew audiences up to 300, but over the years, there were conflicting events and the symposium became superfluous, so that in May, 1976, the academy discontinued this yearly event.

In 1965, the president, Dr. Chauncey L. Royster, grandson of founding member, Dr. Wisconsin I. Royster, appointed a committee to investigate all avenues and report back to the academy. For many years, the academy allotted monies to the Rex Medical Library, its true name being the Raleigh Academy of Medicine Library at Rex Hospital. The chairman of the committee, Dr. Alexander Webb, Jr., reported that arrangements had been completed with the director of the Dan Hill Library at N.C. State University and any member of the academy could, within 24 hours, obtain copies of journals containing articles needed for preparation of clinical and research papers from any of the libraries of the three medical schools, thus making effective a library second to none in importance.

The first of six proposals for the future of the academy stated that

the academy should be contrived as a social and scientific organization for (a) dissemination of scientific information; (b) selectivity; and, (c) a means of furthering the well-being of the medical profession into a brotherhood of mankind. The next resolution dealt with the symposium and the committee recommended that the symposium be strengthened and different sections of the symposium should be named for different members of the academy. These recommendations were passed in toto by the academy.

The next proposal, that the halls of departments at Rex Hospital be named either for an academy founder, an outstanding Raleigh family of doctors, or the first specialist to practice in Raleigh, was not passed. The last resolution pertaining to hiring a public relations firm failed to pass.

Dr. Albert Chasson then moved that the Raleigh Academy of Medicine donate \$150 each to the Rex Hospital Library, the D. H. Hill Library at N.C. State University and the Wake Memorial Library. This was passed by the academy. It is sad to report that the library services as proposed by the committee were never utilized by the members.

The year 1970 loomed as the 100th anniversary of the academy and planning for the observance was begun in 1968. In 1969, a crest was established as the Coat of Arms of the academy. The 25th, 50th and 75th had been celebrated with the 25th being a formal banquet with printed menus. Dr. Wisconsin I. Royster, the only living founder, charmed the audience with personal memoirs of the various founders. The 50th on February 2, 1920, was celebrated by a formal dinner at the

Yarborough House. The 75th was observed at the Sir Walter Hotel with Dr. Hubert A. Royster presenting a history of the academy.

The Centennial Year of the Academy was celebrated at the Angus Barn with a formal dinner with everyone appropriately attired. Dr. Hubert A. Royster, Jr., gave the address entitled "A Century of Heritage; Another of Hope" which was well received.

Since the founding 110 years ago the Raleigh Academy of Medicine has adhered to a policy of integrity and honorableness. Each generation of its membership has received the sense of its founding members and pursued these goals with the intention that although it carries no true weight in the practices of the profession, its spirit remains intact and firm.

Scurvy

Their gums soon after become itchy, swell, and are apt to bleed upon the gentlest friction. Their breath is then offensive; and upon looking into their mouth, the gums appear of an unusual livid redness, are soft and spongy, and become afterwards extremely putrid and fungous; the pathognomonic sign of the disease. They are subject not only to a bleeding from the gums, but prone to fall into hemorrhages from other parts of the body.

Two dozen of good oranges, weighing five pounds four ounces, will yield one pound nine ounces and a half of depurated juice; and when evaporated, there will remain about five ounces of the extract; which in bulk will be equal to less than three ounces of water. So that thus the acid, and virtues of twelve dozen of lemons or oranges, may be put into a quart bottle, and preserved for several years.

I have some of the extract of lemons now by me, which was made four years ago. And when this is mixed with water, or made into punch, few are able to distinguish it from the fresh squeezed juice mixed up in like manner; except when both are present, and their different tastes compared at the same time; when the fresh fruits discover a greater degree of smartness and fragrancy. — James Lind, 1753.

The Raleigh Academy of Medicine

John S. Rhodes, M.D.

ONE hundred and ten years have passed since the founding of this academy, which provides the fellowship that we are enjoying here tonight. It is proper at intervals that we reminisce about the beginning and progress of this institution for it is upon the foundation of the past that the future must be constructed. On January 5, 1870, seven Raleigh physicians gathered at the home of Charles E. Johnson in the first block of Hillsborough Street to discuss the formation and adoption of the constitution and by-laws of what was to become today the oldest society of its type in North Carolina in continuous existence. Those present at the first meeting were, in addition to Dr. Johnson, E. Burke Haywood, immediate past president of the State Medical Society, who had been given credit for originating the idea; William G. Hill, William Little, Richard B. Haywood, James McKee and Wisconsin I. Royster. One month later at the Charter Meeting on February 2, 1870, Drs. W. H. McKee, Fabius J. Haywood, Sr. and Jr., were added to the founding group. William G. Hill became the first president. It was said that Dr. Hill was as brave as a lion and as gentle as a dove, but woe to the man who waked the lion! Descendants of the Haywood and Royster families are presently members of this society. Two McKee descendants, one a medical classmate of mine who lives in Morganton and another a fine citizen of Raleigh, have great-great and great grandfathers among founders.

They adopted the constitution of the Academy, embodying the stature and ideals of its members and revealed its objectives. First, the cultivation of the science of medicine; second, the advancement and honor of the profession; third, the elevation of the standards of medical care, and fourth, the promotion of the public health. In this day of burgeoning economic and social pressures, and escalating government regulations, it is appropriate to restate these goals lest we stray from them. Allow me here to give you a comment made by Betty Jane Anderson, attorney for the AMA, regarding the present argument with the Federal Trade Commission in which she said, "If Hippocrates were alive today, he would have to clear his oath with the FTC." That is about the truth; they are trying to class us as a trade rather than a profession.

It is difficult for us in this modern day of great advances in medicine to visualize the conditions confronting those founding physicians shortly after the end of the Civil War. Raleigh city limits were a little more than a mile square. Even as late as 1908, the Country Club was two miles from the Raleigh city limits. Those needing medical treatment or surgery who could afford a private physician were treated at home. The Raleigh Academy provided care for the indigent on a level accorded those barely able to afford such care. Transportation was by horseback, horse and buggy or on foot.

Academy meetings were held monthly either in the home of a member or in his office. Discussion of cases and new modes of therapy were usually the major portion of the agenda.

The first disciplinary action occurred March 8, 1878, when a member was suspended for "grossly immoral acts of conduct." It was also ruled that personal publicity and advertisement in newspapers was "repugnant to the high sense of honor that should govern the medical profession." Discussions, especially those considering questionable conduct were said to become quite heated. On one occasion it was reported that the session reached such intensity that one member placed a gun on the table. In 1883, a Board of Censors was appointed to review credentials of applicants and monitor questionable activities of members.

Meanwhile, St. John's Guild of the Good Shepherd Church had been trying with limited funds to operate a hospital for the indigent in an old house at the end of Salisbury Street, and that is where Rex Hospital ended up. John Rex, in 1848, had left in his will a sum of money and property to establish a hospital for the indigent. The money had been invested in Confederate bonds which were worthless at the end of the Civil War. Remaining was a small building located near the Raleigh Gas House on West Lenoir Street and a small financial return from the rent. A hospital commission appointed by the Raleigh Board of Aldermen, at the suggestion of the academy, ruled the low lying, swampy site unsuitable for treatment of patients. Then, upon the allotment of \$2,000 from the city, the St. John's Guild's property was acquired and the name changed to Rex, creating a hospital for the indigent. The academy was asked by the city to provide a board to operate the Rex Hospital. Shortly, space for private rooms and surgery were

Doctors' Building, Suite 407
1300 St. Mary's Street
Raleigh, N.C. 27605

Presented at the annual meeting of the Raleigh Academy of Medicine on Feb. 7, 1980, at the Angus Barn in Raleigh.

added. A Medical Library was originally established by the academy and has been continuously supported at Rex Hospital to the present day.

In 1902 the formation of the Wake County Medical Society precipitated much discussion about the status of the two medical groups. It was decided that the county society should be responsible for governing functions and the academy would meet quarterly for social and scientific sessions with membership in the academy restricted to resident physicians in the city limits.

In 1895, the 25th Anniversary Meeting of the Academy was held at the Yarborough Hotel located on the present site of the downtown Hudson Belk store. A few here tonight will recall with me facing the Board of Medical Examiners at the old Yarborough.

E. Burke Haywood and later Augustus W. Knox were responsible for most of the surgery during those early years of the academy. Dr. Haywood had administered the first ether anesthesia in Raleigh in 1858.

The year 1895 marked the arrival of Dr. Hubert Ashley Royster, son of the founding father, Wisconsin I. Royster. It was my good fortune to arrive here while two of the masters of medicine in the history of the academy were still active, namely Hubert Benbury Haywood and Hubert Ashley Royster. Dr. Haywood, son of Fabius J. Haywood, Jr. was a gentle man of even temperament, loved by patients and revered by his contemporaries. Both he and Hubert Royster served as president of the North Carolina Medical Society.

Soon after his arrival in Raleigh, Hubert Royster became the leading Raleigh surgeon, in fact the first physician in North Carolina to limit his practice to surgery. He was secretary of this academy for fifteen years. As a worker, leader, speaker and writer, he had few peers and became nationally recognized. In a book of his addresses published in 1937 entitled "Medical Morals and Manners," he agreed that preliminary education, four years of medical school and a license to practice medicine were minimum requirements for physicians, which he termed insufficient, citing three higher attributes of a real physician, namely, brains, culture and character. One other note from a chapter entitled "Women and the Doctor," apropos in these days of a controversy over ERA and the Armed Services drafts of women, is the observation, "It is not so important whether women be dependent or independent as both men and women should be interdependent." Personally may I observe that interdependence is a dominant characteristic of the majority of medical homes. The collective activities of the Medical Auxiliary strongly support that statement.

For many years Dr. Royster entertained the academy at his home on November 19, his birthday, always presenting a speaker of national prominence. Hubert Royster was highly literate, feisty, energetic and practical, keenly aware of and responsive to the medical ethic.

The 50th Anniversary was celebrated at the Yarborough Hotel honoring Wisconsin Royster, who gave a commentary on the character and attributes of the founders,

omitting any reference to himself. I wish you could read that, it is really very interesting. Hubert Royster reviewed the history of the academy.

The 75th Anniversary was convened in 1945 in the Sir Walter Hotel, with Dr. Vonnie Hicks, Sr. presiding. Hubert Royster was the toastmaster and Maj. Gen. George Lull, commanding officer at Fort Bragg, discussed the relation of medicine to the Armed Services. At that time membership in the academy was 56.

In 1948, stimulated by an unrecurrent from some members proposing abandonment of the academy and with the beginning pressure for continuing education, a motion was passed to initiate an annual symposium to replace the fall quarterly meeting to which would be invited physicians in the surrounding counties to participate in a program delivered by prominent guests. The symposium continued annually through 1975 when, because of the plethora of symposia and seminars staged by teaching institutions and specialty societies and resulting in low attendance, the academy program was discontinued.

On February 2, 1970, at this site, the academy met to celebrate the 100th Anniversary. Dr. Hugh McManus presided and Dr. Hubert Royster, Jr. gave an address entitled "A Century of Heritage, Another of Hope." It is upon the foundation of this heritage that this academy rests and from which it will derive stimulus and inspiration to face the issues confronting medicine today and tomorrow.

The Future of Medical Enterprise: Perspectives On Resource Allocation in Socialized Markets

Uwe E. Reinhardt

INTRODUCTION

The W. K. Kellogg Foundation in celebrating its 50th anniversary sponsored a series of lectures which were delivered to a number of professional organizations. On November 5, 1979, Uwe E. Reinhardt, professor of economics and public affairs at Princeton University, delivered this lecture to the Association of American Medical Colleges at its 90th annual session. It would be presumptuous and superfluous to comment about his talk but in an age of instant authorities and seekers of single roads to salvation, it is refreshing and instructive to read such a balanced and lucid analysis. Although two years have elapsed since the talk was presented, the time has only made his comments more pertinent. The *North Carolina Medical Journal* is indebted to Mr. Reinhardt and to the *Journal of Medical Education* for permission to reprint this article which appeared in that periodical (55:311-324, 1980).

J.H.F.

SOMETIME during the 1970s our nation is said to have contracted a disease that was subsequently diagnosed, by our leader, as a case of acute malaise. Precisely what troubles us is much debated. But it can hardly be doubted that anxiety over the nation's economic health is one of our concerns.

In the health care sector the disease has progressed beyond malaise. Symptoms presented during recent conferences, in testimony before Congress, or at health care cocktail parties point to the early stages of paranoia. There are ru-

mors that health care resources are finite. There are rumors that the government will attempt to constrain the future growth of national health care incomes to the growth of the gross national product. (National health care expenditures represent, dollar for dollar, someone's health care income. In a sense, then, policies aimed at constraining health care expenditures can be legitimately viewed as a direct assault on someone's actual or potential income.) There are rumors that the real income of physicians may one day decline and already may have done so. And near pandemonium breaks out whenever someone breaches the time-hallowed tabu against using the words "health care" and "rationing" in the same sentence.

In a mental state such as this, Americans should seek professional treatment from their economists. The profession's palliatives come in two forms. First, economists have a penchant for predictions which, although rarely ever on the mark, nevertheless contribute significantly to American humor — and therein lies a form of relief. Alternatively, economists can administer judicious doses of perspective. While these perspectives rarely humor anyone, they are known to have retrieved patients from even advanced stages of paranoia to the more manageable state of "enlightened resignation." It is a cure of sorts.

In the following I shall attempt therapy of the second sort. After a brief view at a few pertinent macro-economic indices, I shall seek to diagnose the true nature of the eco-

nomic dilemma faced by the health care sector. I shall argue that this dilemma is less an economic than an administrative one. There will follow suggestions of certain pedagogic therapies that might help future alumni of medical colleges cope more cheerfully with their seemingly hostile economic and administrative environment. Ever conscious of my profession's reputation as the "dismal science," I shall conclude my remarks with some somber perspectives on the financing of medical education, a subject that bears directly on the central concern of this essay, the future of medical enterprise in this country.

Observations on the Economy

In seeking to diagnose our current malaise, one had best begin with one of the more tractable symptoms, namely, the widely shared feeling that we are poorer now than we were before and that our quality of life — including the quality of our health care — has suffered erosion. Tables 1 to 3 provide perspective on this point.

It is seen in Table 1 that real gross national product per capita rose by over 20 percent during the eight-year period 1970 to 1978. Per capita disposable income and consumption expenditures rose even faster. Some individuals may be poorer in 1979 than they were in 1970. Doctors, for example, may possibly be somewhat less well paid (Table 4), and professors certainly are. But on the average Americans are better off; there can be little doubt about that.

There are, to be sure, some wor-

TABLE 1
Gross National Product and Personal Income, 1970 and 1978

| Categories | Per Capita, 1972 Dollars | | Percent | |
|-----------------------------------|-----------------------------|-------|----------|--------------------------------|
| | 1970 | 1978 | Increase | Average Annual Compound Growth |
| Gross national product | 5,248 | 6,338 | 21 | 2.4 |
| Personal disposable income | 3,619 | 4,418 | 22 | 2.5 |
| Personal consumption expenditures | 3,265 | 4,078 | 25 | 2.8 |

SOURCE: *Economic Report of the President*. Washington, D.C.: U.S. Government Printing Office, Jan. 1979, Tables B-2 and B-22, pp. 189, 213.

risome signs that might warrant a mild migraine. For reasons too complex to be explored here, economic growth in the United States abated markedly sometime after the mid-1960s, as is indicated in Table 2. Because the decline in the growth rate precedes by many years the sharp increases in energy prices following the 1973-74 oil crisis, its origins must be sought in other factors which have been long building up within our own economy. The nature of these factors suggests to economists that average productivity growth during the next several decades, although positive as before, will not soon again reach the quick pace of the early post World War II decades.

Aside from a sluggish future growth in productivity, the ever increasing cost of energy will impose, of course, an additional burden on our national income. This so-called energy tax is cause for some concern but certainly not for hysteria. On this point economist Thomas C. Schelling¹ has observed that in the medium to long run the added cost of domestic and imported energy is "equivalent to a deadweight tax of up to 5 percent on our GNP in perpetuity, or equivalently, a leftward displacement of our GNP growth

curve by a couple of years, from and after about the year 2000." While the absolute magnitude of the "tax" estimated by Schelling ranges in the hundreds of billions per year — and while it is certainly nontrivial even if expressed as a percentage of GNP — no one need fear that the energy tax alone will bankrupt this nation.

Of course, socially irresponsible reaction to the tax might wreak havoc. An irresponsible reaction to the tax, for example, would be a refusal on the part of organized labor or of organized professionals to shoulder any portion of this tax. Hard collective bargaining might succeed in passing off most of the tax to persons with fixed nominal incomes — including segments of the aged. The vehicle for this transfer of the tax burden would be inflation. In other words it is not in the main the OPEC price increases per se that cause our inflation but our society's reaction to these price increases. At the risk of becoming yet another American humorist, then, I would predict that toward the end of the 1980s our real capita income will be higher, once again, than it was a decade earlier, although it will certainly be lower than it could have been had we been luckier, thriftier, and more industrious than we have

recently been and are likely to be in the near future.

Within this macroeconomic picture the nation's health care sector has fared particularly well during the 1970s. As shown in line 1d of Table 3, the sector's share of gross national product has been permitted to increase by an average compound rate of 2.3 percent per year, from a share of 7.6 percent in 1970 to 9.1 percent in 1978. After adjustment for general price inflation and for growth in the population to be served by the health care sector, its resource allocation, measured in terms of real generalized purchasing power (line 11b in Table 3), rose by an annual compound rate of 4.9 percent, that is, by almost 50 percent over the entire period from 1970 to 1978. By almost any standard, this strikes one as a series of generous appropriations for the task at hand.

Some of the health sector's appropriations of real (constant dollar) general purchasing power appear to have been absorbed by higher input prices (including prices paid per hour of time supplied by health workers) and, possibly, also by inefficiencies in the production of health services. These allocations of purchasing power must have enhanced the quality of life of health workers and of suppliers to the health care sector (although probably not the quality of health care delivered to patients). But even after adjustment for this phenomenon, the health care sector's allocation of real resource inputs is seen to have increased at a relatively high rate during the 1970s. This conclusion emerges from lines 1c and 11c of Table 3, which present health care expenditures deflated by a price index specifically for health services. Line 11c suggests that the allocation of real resources per person to be served increased by about 30 percent during the 1970s, that is, by an annual compound rate of 3.4 percent. It will be recalled that real gross national product per capita rose by only 2.4 percent per year during the same period.

In short, then, within its overall resource budget, society has seen fit during the last decade to appropriate fairly generous budgets for

TABLE 2
Labor Productivity Growth in the United States, 1948-1978*
(Percentage Change Per Year)

| Type of Labor | 1948 to 1955 | 1955 to 1965 | 1965 to 1973 | 1973 to 1977 | 1977 to 1978† |
|--------------------------|-----------------|-----------------|-----------------|-----------------|------------------|
| Private business economy | 3.4 | 3.1 | 2.3 | 1.0 | 0.4 |
| Nonfarm | 2.7 | 2.6 | 2.0 | .9 | .6 |
| Manufacturing | 3.3 | 2.9 | 2.4 | 1.5 | 2.5 |
| Nonmanufacturing | 2.4 | 2.4 | 1.7 | .6 | -.3 |

*Data relate to output for all persons per hour paid.

†Preliminary figures.

SOURCE: *Economic Report of the President*. Washington, D.C.: U.S. Government Printing Office, Jan. 1979, Table 15, p. 68.

TABLE 3
Resource Allocation to the U.S. Health Care Sector, 1970-78

| Item | Expenditures on Health Care | | Percent Increase | |
|---|-----------------------------|-------|------------------|------------------------------|
| | 1970 | 1978 | Period 1970-1978 | Average Annual Compound Rate |
| I. National health expenditures (billions of dollars) | | | | |
| a. Current dollars (undeflated) | 74.7 | 192.4 | 159 | 12.6 |
| b. Deflated by the implicit price deflator for the GNP* | 80.8 | 128.1 | 58 | 5.9 |
| c. Deflated by the implicit price deflator for personal health† | 82.8 | 116.8 | 41 | 4.4 |
| d. As a percentage of gross national product | 7.6 | 9.1 | 19.7 | 2.3 |
| II. Personal health care expenditures per capita | | | | |
| a. Current dollars (undeflated) | 315.4 | 753.0 | 139 | 11.5 |
| b. Deflated by the implicit price deflator for the GNP* | 340.9 | 501.3 | 47 | 4.9 |
| c. Deflated by the implicit price deflator for personal health† | 349.7 | 456.9 | 31 | 3.4 |

*Figures deflated by the implicit GNP deflator indicate the amount of generalized, real purchasing power society has been willing to allocate to the health care sector. It is an opportunity-cost concept. The values of the deflator are: 1970 = 92.5, 1972 = 100, 1978 = 150.3.

†Figures deflated by the implicit deflator for personal health care represent an estimate of the growth of real-resource input into the health care sector. The values of the deflator are: 1970 = 90.2, 1972 = 100, 1978 = 164.8.

SOURCE: Data on the GNP price deflator calculated from the *Economic Report of the President, 1977*, Table B-22; all other data from Robert M. Gibson, *National Health Expenditures, 1978, Health Care Financing Review*, Summer 1979, Tables 1 and 2, p. 22.

the health care sector. Out of these budgets the sector has been able to pay well for the human labor and the material inputs it uses; and with these inputs it should have been able to enhance significantly the quality of health care rendered society, which it most probably did.

Whether society will continue to increase its appropriations to the health care sector at rates in excess of the growth of gross national product is an open question. Logic dictates that society cannot do so indefinitely. On the other hand, as I have argued elsewhere, society could certainly continue to do so for one or several more decades.^{2,3} Whatever one's assessment of future trends in this area may be, however, it is doubtful that even a concerted effort at cost containment will succeed, during the 1980s, in reducing the growth of national health expenditures to or below the growth of gross national product. At this time it seems a safe bet that society will decide, or be forced, to transfer to the health care sector continued increases in the amount of real (constant dollar) generalized purchasing power per person to be served by that sector. These appropriations may well be less than

the health care sector would wish, but they are apt to increase nevertheless. Out of these appropriations those working in the health care sector ought to be able to (a) pay

themselves and their suppliers handsomely (the fact that, for example, real physician incomes may be declining somewhat [Table 4] does not mean, of course, that even these lower incomes are not "handsome") and (b) at least maintain and undoubtedly enhance the quality of health care delivered to society. The much voiced fear that the quality of health care in this country is imperiled by current economic trends seems to be unfounded. (Spokespersons for the health care sector sometimes pretend that mere containment of the growth of real health care expenditure [as distinct from the absolute level] will lower the quality of health care. I have always marveled at the discipline it must take to do this with a straight face.)

Arbitration of Conflicts

A Martian diagnostician might have some difficulty tracing our malaise to the macroeconomic statistics presented above. Without further probing, that diagnostician might well agree with Professor Edward Wynne⁴, who recently opined that it "is a form of narcis-

TABLE 4
Changes in Real Median Net Pretax Practice Income of American Physicians in Private Office Practice, 1973 to 1978

| Specialty and Type of Practice | Median Net Practice Income | | | Percentage Change In Real Income | |
|--------------------------------|----------------------------|---------------------------|---------------------------|----------------------------------|-----------------------|
| | 1973 (In 1973 dollars) | 1978 (In 1978 dollars) | 1978 (In 1973 dollars) | 1973-1978 | Average Annual Change |
| Unincorporated M.D.s | | | | | |
| General practitioners | 37,890 | 45,670 | 31,100 | -17.9 | -3.9 |
| Family practitioners | 40,630 | 58,130 | 39,590 | -2.6 | -0.5 |
| Internists | 43,100 | 53,700 | 36,570 | -15.2 | -3.2 |
| General surgeons | 47,290 | 62,500 | 42,560 | -10.0 | -2.0 |
| Obstetrician/gynecologists | 51,830 | 63,210 | 43,050 | -16.2 | -3.5 |
| Pediatricians | 38,330 | 49,060 | 33,410 | -12.8 | -2.7 |
| All surgical specialists | 49,550 | 62,210 | 42,370 | -14.4 | -3.1 |
| All nonsurgical specialists | 41,810 | 54,170 | 36,890 | -11.8 | -2.5 |
| All fields | 42,140 | 54,700 | 37,250 | -11.6 | -2.4 |
| Incorporated M.D.s | | | | | |
| General practitioners | 55,500 | 71,030 | 48,370 | -12.8 | -2.7 |
| Family practitioners | 55,000 | 66,940 | 45,590 | -17.1 | -3.7 |
| Internists | 58,750 | 73,610 | 50,130 | -14.6 | -3.1 |
| General surgeons | 67,500 | 88,750 | 60,440 | -10.5 | -2.2 |
| Obstetrician/gynecologists | 72,500 | 88,400 | 60,200 | -16.9 | -3.7 |
| Pediatricians | 55,000 | 67,050 | 45,660 | -17.0 | -3.7 |
| All surgical specialists | 72,500 | 93,670 | 63,790 | -12.0 | -2.5 |
| All nonsurgical specialists | 65,000 | 76,300 | 51,960 | -20.0 | -4.4 |
| All fields | 67,500 | 82,260 | 56,020 | -17.0 | -3.7 |

SOURCE: Adapted from: Arthur Owens, *Doctors' Earnings: Look What's Happening to Your Buying Power*. *Medical Economics*, 56: 192-193, Sept. 17, 1979. (There were 2,034 usable responses to 14,822 mailed questionnaires.)

sism for the most prosperous and best educated group of Americans in our history to contend that the problems now facing our society are significantly more difficult than those in our past. After all, we also have more problem-solving resources than ever before."

Although the professor has a point, his judgment may be too harsh. Narcissistic we undoubtedly are, as were, however, our parents and their forebears. The question is whether this chronic human affliction has become more acute in our time. One could offer the contrary hypothesis that we are slightly less narcissistic than were our elders — that we are much more concerned than our forebears with the attainment of equity in the distribution of society's resources. Unfortunately, in seeking to act on that concern, we have been forced to impair systematically the mechanism through which our forebears so conveniently settled social conflicts over the allocation of society's resources. I am speaking here of the secular erosion of private market forces as social arbiters and of our failure, so far, to replace that form of arbitration with a generally accepted alternative. Because this issue is central to our debate on national health policy, I will pursue it at greater length.

Earlier generations of Americans were generally content to settle most of their disputes over resource allocation with appeal to private market forces, perhaps in the hope that everyone who really tried would be given a turn at good fortune in these markets. Economists from Adam Smith on have celebrated this form of arbitration for at least two reasons. First, private market arbitration tends to allocate resources efficiently, that is, to those who value them most. Second, arbitration through private markets affords a decision-maker a high degree of personal discretion, subject only to the individual's budget constraint. Given that constraint, most other systems of arbitration — certainly most administrative/political ones — offer the individual less freedom of choice.

It can be asked, in view of these

virtues, why a sensible society would ever wish to abandon private market arbitration in favor of alternative systems, often over the strenuous objections of economists. Indeed, it can be asked why society's political representatives fail to appreciate what is so plainly obvious to economists.

The answer may be, in part, that the economist's normative pronouncements on this subject matter are suspected of being subjective and thus political. The typical economist in our society tends to occupy a rather favorable position in the nation's income distribution — a position reached by a combination of intelligence, effort, and, lest we forget, sheer luck (including, possibly, a favorable lineage). From this relatively felicitous vantage point, "freedom of choice" is apt to be greatly valued because there is much budgetary leeway to exercise that freedom to personal advantage. Furthermore, from that vantage point an efficient allocation of society's resources is apt to appear pleasing because that celebrated state implies that resources have flown to those individuals willing and able to bid the highest prices for them, that is, to persons with high incomes, however begotten.

Economists usually recognize this dimension of the concept of efficiency. To sidestep the moral dilemma it raises, they almost invariably accompany their missives on private market arbitration with silent prayers that the underlying distribution of income be "just." On the tacit assumption that these prayers will be answered, economists then feel safe in elevating the state of economic efficiency to a socially desirable end in itself. Those who tend to find the economists' normative pronouncements in this area lacking in moral force — politicians among them — argue that economists typically abstract all too conveniently from the possibility that their silent prayers will not be answered after all. That criticism is not easily dismissed. At the very least, economists ought to go to much greater length than they normally do to demonstrate why rationing of economic privilege

through private market forces is morally superior to other forms of rationing. It turns out that in a world permitting large bequests within families, such a demonstration is not easily accomplished, as economists all too quickly realize in lectures to intelligent undergraduates.

Now it may be argued that while private market arbitration is not invariably equitable, it is impersonal and, therefore, more likely to be accepted by individuals than would be other, more personal forms of arbitration. The notion here is that appeal to the impersonal forces of "supply and demand" tends to have roughly the same soothing effect on the individual as does appeal to "kismet" in certain fatalistic cultures. To quote from a recent editorial in *The Wall Street Journal*²:

Classical economists used to list among the virtues of the price mechanism that it avoided social strife. It did not set group against group, they taught. In our lifetime we have protected the poor with income transfers to insure a minimum standard of living, but we have generally allowed prices to allocate goods among different end uses. It has worked so smoothly we did not understand what the classical economists meant; today we see. In addition to its economic virtues, the price mechanism is a vital buffer of civility.

Although there is something to this proposition, two caveats may nevertheless be registered.

First, like economists, the editors of *The Wall Street Journal* are likely to find themselves at or near the top of the nation's income ladder, once again through a combination of effort and luck. Mere distance from the lower rungs may be the buffer of civility whereof the editors write. An observer perched atop the income ladder rarely has occasion to witness — let alone to suffer — the indignities private market arbitration can visit upon quite innocent individuals, for example, the offspring of poor families or broken homes, whom mere misfortune has cast to the bottom of the nation's income scale. Unless these losers vent their anguish in unison, as they do from time to time in urban riots, those at the top of the scale may easily mistake muted and distant anguish as a sign of "civility," and the associated distribution of resources as civilized. It may be a

comforting mistake, but a mistake nevertheless.

Second, while it may be true, historically, that Americans have accepted the verdicts of private markets with equanimity, it is not clear that this cultural trait has survived to the modern age. Indeed, *The Wall Street Journal's* editors might test their own hypothesis on this point by descending, on their way home to the suburbs, in either Harlem or the Bronx or by taking leisurely strolls through the blighted areas in any of our cities, which are, after all, products of a society dominated still by private markets. Should the editors survive their inquiries — an assumption not to be taken for granted — they might then wish to amend their editorial. They may discover that, like Rodney Dangerfield, the verdicts of private markets increasingly seem to “get no respect no more.”

My purpose in the preceding paragraphs has not been to advocate the abolition of private markets — far from it. By years of training in economics and a comfortable income position I, too, am quite favorably disposed to private market arbitration. Rather, my purpose in this section has been to remark that, for better or for worse, certain classical perceptions of private markets may be out of step with recent social developments. For better or for worse, society's attitude toward private market arbitration appears to be in the process of change, a process of long duration that seems to have accelerated in recent decades.

As noted previously, the apparent civility of private market arbitration may not be universally appreciated. Beginning with the union movements of the late nineteenth century, there have been attempts to check the more painful legerdemain of the proverbial “invisible hand.” The union movement sought protection through the simple device of labor-market cartels. In more recent decades sundry interest groups — for example, farmers, the airlines, the trucking industry, and even single, huge corporations — have succeeded in using the political process to rig the

market in their favor. The typical mechanism here has been the regulatory process or outright public subsidy. Finally, society has seen fit to guarantee all citizens access to certain basic commodities — first to public education, then to higher education and health care, and next to basic food stuffs and low-rent housing. Sooner or later the notion will be extended to basic quantities of energy as well. Whether this phenomenon represents *noblesse oblige* or merely a preemptive protective reaction to possibly uncivilized conduct on the part of the lower income classes is an intriguing question. In any event, and for better or for worse, the trend toward increasing socialization of access to consumer goods seems unmistakable.

As *The Wall Street Journal* suggests in its editorial — and as economists can demonstrate with appeal to economic theory — the preferred approach to guaranteeing access to certain commodities is, in principle, an appropriate redistribution of income. Such transfers, however, redistribute generalized purchasing power, which is apt to spill over also on commodities society does not wish to redistribute. Because of these spillovers, the income transfers that would be required to guarantee a satisfactory distribution of a few basic commodities appear to exceed the political tolerance for simple income transfers. The political compromise, therefore, has been to redistribute specialized forms of purchasing power that can be spent only on the desired target commodities. Thus, we have non-transferable entitlements, for example, to free schooling, free health care, and low rental housing.

These entitlements, of course, must be collectively financed somehow. One may refer to this fiscal mechanism as the “socialized financing” of commodities and to the latter themselves as “socialized commodities,” where the degree of socialization may be either partial or complete. Used in this fashion the term does not necessarily imply that the collective budget be publicly administered. A private health insurance pool, for example, repre-

sents a form of socialization as well. Nor does use of the term in this context imply production of the commodity by the public sector. The socialization of health care financing does not inevitably imply socialized medicine as the latter term is commonly understood.

By design, the socialization of a commodity leads to a partial or complete displacement of private market arbitration by some alternative mechanism, usually an administrative one. This change in the form of arbitration probably lies at the root of most of our modern economic dilemmas. For while the verdicts of private market arbitration had traditionally elicited only muted protest from individual losers (occasionally, as noted, the losers do protest audibly, as was evidenced during the urban riots of the late 1960s), the verdicts of administrative arbitration in socialized markets tend to elicit vociferous comment from the various interest groups positioned around the corresponding collective budgets, especially from the providers who have come to look upon these budgets as a source of economic mainstay. Ironically, then, society's attempt to produce for certain basic commodities more civilized allocations among members of society requires a form of conflict resolution that typically sounds and seems less civil than traditional private market arbitration. (I do not wish to imply that socialized markets are always ethically superior to private markets. Surely such judgments are (a) a matter of personal taste and (b) a function of the commodity in question. Indeed, I shall argue further on that the degree of socialization of the market for medical education may already have gone much too far.) A casual thinker can easily be seduced by this requirement for a new means of conflict resolution into believing that the nation's economic problems have intensified when in fact, the purely economic aspects of the problems are not severe at all and the heart of the problem is lack of administrative ingenuity. In what follows I shall examine this problem further, and

strictly within the context of the health care sector.

Socialized Arbitration

Most Western democracies have by now completely socialized the financing of their health services. In the United States the process is as yet incomplete, but it has progressed quite far as well. Furthermore, it is a safe bet that those remnants of the health care sector still functioning as essentially private markets, which is not to say as "freely competitive markets," will sooner or later come under socialized financing as well, even if primarily through private health insurance pools.

As noted, the decision to socialize the financing of a commodity requires society to supplant private market arbitration of resource conflicts with some alternative mechanism. This changeover has been found extraordinarily difficult. Therefore, we have sought to avoid it or at least to postpone it. Thus, to spare the administrators of collective health care funds, private or public, the agonizing trade-offs earlier generations had routinely imposed on private households, we have permitted these administrators to smother with our collective funds any impending resource conflict within their purview. The policy has been expensive, as is well known. Worse still, it has had the deleterious effect of fostering among health care providers the notion that society's health care budget has extraordinarily flexible limits.

For a fleeting few years our attempt to run away from budgetary trade-offs seemed to succeed. Although real resource trade-offs were, of course, unavoidable, these trade-offs were forced upon patient and physician by temporary limits on physical capacity. That ad-hoc form of trade-off seems to have been preferred, presumably because it is always easier to muddle through with temporarily fixed physical capacity than to impose budgetary trade-offs on an environment with ample physical capacity.

A policy to smother conflicts over resources with funds obviously must self-destruct in the end

because the perceived readiness to pay for any and all claims on resources tends to elicit added physical capacity. Eventually the budget will fail to outrun physical capacity and will be surpassed by it. In the health care sector that stage seems to have been reached sometime in the mid-1970s, when its physical capacity seems to have outgrown our willingness to finance the associated annual operating costs. (The most stunning concrete symbol of this phenomenon is Woodhull Hospital in New York, a hospital so extravagantly capitalized that the city literally cannot afford to operate it. The hospital has so far stood finished but unused.) One can trace to that time the onset of an endless series of conferences on "the emerging [sic] need for rationing and trade-offs in health care."

The titles of these conferences make for humorous reading, and even more so the ponderous themes that were struck. Some extremely clever or confused souls, having observed that the rapid growth of Medicare and Medicaid coincided with the perceived "novel" requirement for trade-offs in health care, even went so far as to cull from this coincidence the causal inference that rationing is a consequence uniquely of government intrusion into the health care sector. The logical implication, also frequently put during these weighty discussions, was that rationing could be avoided altogether simply by returning the health care sector to the care of private market forces.

One is inclined to shrug off such strange propositions when they are proffered by spokesmen whose mandate may require them, occasionally, to obfuscate public discourse through the judicious interjection of patent nonsense. The truly alarming phenomenon is that the belief seems to have wide currency also among commentators who offer it without intention to deceive. Because private medical practitioners are so heavily represented in the latter group, one sees in this thought pattern a challenge to their educators.

What would one teach a prospective physician on this point? Obvi-

ously, one would remind him that the concept of rationing in health care predates the onset of Medicare and Medicaid and even the birth of Senator Edward Kennedy. Indeed, one traces its origin all the way back to Genesis 3, where one is told of man's fall from grace. The need for rationing — and, incidentally, for the economics profession as well — dates to that cataclysmic day; for ever since Adam and Eve decided to supplement their hitherto free lunches with the forbidden fruit, there have been no free lunches at all — not in apples, not in health care.

Health care providers in this country, and especially physicians, must eventually come to appreciate that society's options on the issue of rationing in health care are confined strictly to alternative forms of rationing. We can ration largely through private household budgets, we can ration largely through collective private insurance budgets, we can ration largely through collective public program budgets, or we could select from among numerous mixtures of these three. In a good many instances economists may be able to offer truly objective commentary on the relative merits (that is, efficiency) of these options, as long as the ultimate outcomes associated with them remain roughly identical. Where outcomes change, however — for example, where different options imply different distribution of economic privilege across members of society — the choice of options becomes a matter of personal (subjective) preference, which, as noted, is apt to be strongly influenced by one's position in the nation's income scale. It is as simple and yet as complicated as that.

Because our society seems to prefer collectivized financing of health care, physicians should be taught to accommodate themselves to the natural consequence of society's choice: the arbitration of conflicts over health care resources through the individual budgets of private households. (To repeat, the crucial factor here is not that some of these collective budgets are publicly administered but that they are collective budgets. After all, the

debate over resource allocation has been just as vigorous in, say, Holland and West Germany, where health insurance is fully in the hands of private administrators, or in the board rooms of our privately administered Blue Cross-Blue Shield plans).

Concretely, this will mean, for example, that a medical treatment agreed upon by a physician and his patient may not be ratified with collective funds. This prospect requires a novel perspective on the patient-doctor relationship. Physicians customarily remind one that they treat patients as individual human beings while policy-makers treat them as actuarial abstractions. Occasionally, this sentiment is translated into the proposition, put to me not long ago by a physician, that "an acceptable health care system is one in which patient and physician decide what treatment is to be applied and someone pays for it (presumably at the physician's usual and customary rate of hourly income)." I am very much afraid that this pastoral image of the health care process is obsolete. In the final analysis, the administrator over a collective health care budget must decide which treatment will be financed and which will not and how much should be paid for those treatments that are to be financed. The administrator's decisions will inevitably be based on some actuarial benefit-cost calculus and thus impose upon the delivery of health care value judgments other than those of the physician and his patient. Unless the latter can somehow find an alternative source of finance, the physician will be effectively forced to adopt an actuarial perspective in matters of medical treatment as well. The physician will be tempted to protest that some distant administrator has penetrated the doctor-patient relationship and seeks to practice medicine from afar. In fact, of course, the administrator has merely exercised his right, indeed duty, to decide what type of medicine will be paid for collectively. It can be asked whether the current curriculum of our medical schools prepares future physicians adequately for medical

practice within this novel economic environment.

Physicians will also need to learn to participate more constructively than they hitherto have in determining their financial claims on collective health care budgets. In the United States that thorny problem has so far been evaded by recourse to the system of "usual, customary and reasonable fees" (UCRs). The UCR system can be said to have economic legitimacy only as long as it is firmly anchored in fees determined in well-functioning private markets. Under those circumstances the system might be defended as an adaptation by collective budgets to private market arbitration. Where private market arbitration has been substantially or completely eroded, the concept of the UCRs ceases to have economic legitimacy and some administrative mechanism must override it. In principle, the replacement could be an imposed set of fee schedules. Negotiated fee schedules are an alternative. (Other than fee-for-service systems could, of course, be negotiated or imposed as well.) Negotiated schedules would permit the medical profession to participate constructively in arbitration over their incomes. Such schedules are now used in Canada, France, and West Germany. The question is whether physicians in this country are of a mind-set even to contemplate a reimbursement system based primarily on collectively negotiated fees (and/or incomes). If not, the curriculum of medical schools faces yet another challenge.

In formulating a view on physician incomes, the administrators of collective budgets are unlikely to abstract completely from the supply of and demand for medical manpower. All available evidence points to a sustained rise in our physician-population ratio for at least the remainder of this century. Running, as it does, against concerted attempts to constrain the future growth of the nation's health care budget, this secular trend in medical manpower is apt to exert downward pressure on the individual physician's net practice income.

Recent data on physician incomes, presented in Table 4, suggest that pressures in this direction may already be at work. There appears to have been a decline in the average median net income of physicians, a tendency observable in all specialties. Although the tabulated averages may reflect, in part, a deliberate trade-off of income for added leisure time, and also a relatively larger representation of recently graduated physicians, it may well be the case that on the average real physician income peaked sometime in the mid-1970s and may not rise again for some time.

At this time the physician's income is still subject to private market forces because charges even for insured services often exceed the fee reimbursed by the insurer, leaving the patient to absorb the balance. The medical profession, therefore, cannot but accept a decline in real income as largely the verdict of market forces. The question is whether physicians would be prepared to accept a similar decline, under similar market conditions, but within a regime of comprehensive national health insurance. There might be a tendency to interpret such trends as open hostility. In fact, of course, the administrators of collective health care budgets might simply be simulating trends that would otherwise have been produced by private market forces. On this point, too, careful education could equip the prospective physicians with a balanced perspective, one that departs from the peculiar notion that real incomes of particular types of manpower may never fall, regardless of the overall supply of that type of manpower. One cannot forgive a labor union that odd notion — and one should not — much less so the members of a highly trained and, presumably, a highly educated profession.

Desocialization of Medical Education

In the previous section I concluded that society seems bent on socializing ever more extensively the market for physician services. My objective has not been to commend or condemn this tendency but simply to remark that it seems man-

ifest, for better or for worse. While physicians may prefer to fight this trend, they may not be able to arrest it in the end. In view of that contingency, medical educators probably should prepare their future alumni to accommodate themselves constructively to the requirements of medical practice within socialized markets.

There is, alas, one market whose gradual but extensive socialization physicians have accepted quite readily, namely, the market for medical education. As is well known, a high proportion of the full cost of a medical education in this country is now borne by collective budgets, largely public budgets. Most other nations have gone even further in this direction by eliminating tuition charges altogether and by paying medical students a living allowance outright. The objective in every case is to guarantee all candidates access to medical education. In the words of the Association of American Medical Colleges (1978-79 Annual Report), "Continuation of financial assistance to medical students is essential if the medical profession is not to be limited to individuals from the upper socio-economic strata of our society."

While the theory espoused by the AAMC has had broad appeal during the 1960s, it appears that recently there have developed some doubts about its merits, at least in the United States. Moves have been afoot at the federal level and in some states to transfer a greater share of the cost of medical education to the student. Ironically, then, while the trend toward increasing socialization continues apace in the market for physician services, society seems bent on desocializing at least to some degree the market for the physician's education.

According to published reports, the government's insistence upon first socializing medical education during the last decade and upon now desocializing it has evoked in the AAMC's leader, Dr. John A. D. Cooper, the imagery of "a fellow who gets a girl pregnant [and] then walks away claiming it's no longer his responsibility."⁶ The imagery

ought to evoke sympathy for the maltreated damsel. The question is whether she should count on it. In concluding this essay, I would like to conjecture on the posture economists are likely to adopt on this facet of resource allocation. It will be one more somber thought for which both medical educators and their students had better be prepared.

Economists, never known for their gallantry, will almost surely leave the damsel in distress. First, they will intone, with righteous indignation, that the damsel ought not to have played around with that fellow [Uncle Sam] in the first place — that she ought to have remained virtuous like her cousins, the law school and the business school. Next, they will argue that a gradual but sustained shift of the cost of medical education from the public purse to the medical student would be not only efficient on purely economic grounds but also commendable on ethical grounds.

In making this case, economists portray professional training of any sort as an investment in human capital. (No economist would assert that pecuniary factors dominate occupational choice to the exclusion of all other factors. In selecting an occupation, candidates first of all confine their search to options that seem compatible with their perceived aptitudes. It can also be supposed that candidates have distinct preferences concerning their future social role. It would be hard to believe, however, that modern medical students in the United States and elsewhere typically chose their careers completely in abstraction from pecuniary reward. This is, of course, neither shameful nor surprising.) There are basically three reasons why investments of human capital — or, for that matter, investments in physical capital — might warrant public subsidies:

1. Individuals investing in alternative activities receive public subsidies, and so horizontal equity calls for a subsidization of the particular investment in question.

2. In the absence of the subsidy, the overall level of investment in the

activity would fall below the level society deems adequate.

3. Society wishes particular subsets of individuals (for example, members of minority groups or women) to invest in the activity in question, perhaps to the exclusion of other groups.

In the case of medical or dental training, the first of these reasons can be dismissed as basically invalid. Few persons receiving graduate professional education ever receive anywhere near the level of subsidies routinely accorded medical students. In fact, many of them, for example, students of law or business, do not receive any significant subsidy from the public sector. More important still, persons seeking to invest in nonprofessional economic activities, for example, a service station, do not now receive any public subsidy in their endeavor, although their tax rates are identical to those borne by professionals with identical taxable income.

The second reason would have validity in periods of acute health manpower shortage. During the early 1960s, for example, a temporary subsidization of medical schools could have been justified on this ground alone. Although no one can claim to know precisely what number of physicians represents an adequate supply for the United States, there is an emerging consensus that the current and future supply is ample. A perceived health manpower shortage is hardly any longer a valid justification for continued public subsidies to medical education. Indeed, by discouraging entry into a field that seems widely judged soon to be excessively supplied, a policy to raise tuition substantially might actually contribute to greater efficiency in the allocation of human resources.

This leaves one with the third reason, namely, the notion that medical education needs to be heavily subsidized to provide all segments of society easy access to the medical profession. On the surface this proposition has a certain intuitive appeal. That appeal erodes upon further thought.

A medical education is, as noted,

an investment in human capital. It is an investment that propels the medical student, from whatever socioeconomic stratum he may come, into one of the nation's highest income brackets. A policy to finance this propulsion out of broad-based taxes is apt to redistribute wealth from the lower- and middle-income groups to an upper-income group in society, that is, its incidence is apt to be regressive and thus not readily defensible on ethical grounds. Furthermore, it can be shown that long-term amortization of the full cost of a physician's education as a tax-deductible charge against the physician's income would hardly constitute a severe burden on the physician's economic position.⁷

The conventional argument against this option has been that substantial further increases in medical school tuition would automatically eclipse students from lower income families (especially minority candidates) from entry

into the medical profession. That argument would have force in the absence of a readily accessible and generous loan program. On the other hand, if an adequate loan program were made available to all medical students — as it clearly should be — a sensible person would have difficulty in viewing as discriminatory a policy requiring the benefactors from an investment to amortize the true cost of that investment out of their future incomes, especially when the totality of these costs would rarely exceed two to three years' future income. Members from low-income groups choosing to invest in, say, a service station now are asked to bear precisely such amortization. The question can and probably will be asked why such persons should be required to subsidize with their taxes the occupational investment of their more fortunate peers accepted by medical schools.

A more careful discussion on the

financing of medical education obviously lies beyond the compass of the present essay. My objective in raising the issue here has been merely to link that topic to the phenomenon of socialized markets and to the problem of resource allocation in the health care sector. Resolution of this particular issue will influence strongly the nature of medical education in this country and, indirectly, the cost of the medical enterprise.

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Cirrhosis

The liver, reduced to a third of its ordinary size, was, so to say, hidden in the region it occupied; its external surface, lightly mamellated and wrinkled, showed a greyish yellow tint; indented, it seemed entirely composed of a multitude of small grains, round or ovoid in form, the size of which varied from that of a millet seed to that of a hemp seed. These grains, easy to separate one from the other, showed between them no place in which one could still distinguish any remnant of liver tissue itself: their color was fawn or a yellowish russet, bordering on greenish; their tissue, rather moist, opaque, was flabby to the touch rather than soft, and on pressing the grains between the fingers, one could not mash but a small portion: the rest gave to the touch the sensation of a piece of soft leather.

This type of growth belongs to the group of those which are confused under the name of scirrhus. I believe we ought to designate it with the name of cirrhosis, because of its color. Its development in the liver is one of the most common causes of ascites, and has the peculiarity that as the cirrhosis develops, the tissue of the liver is absorbed, and it ends often, as in the subject, by disappearing entirely; and that, in all the cases, a liver which has cirrhosis becomes smaller in volume, instead of increasing all the more. This type of growth develops also in other organs, and finishes by softening like all morbid growths. — R.-T.-H. Laënnec, 1826.

SPECIAL ARTICLE

The Physician and Spouse III. Problems and Some Comments on Solutions

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ABSTRACT Problems of marriage arise many times because of distortions in the trajectory of life. If individuation is inadequate, persons may remain tied in a relationship to their parents. They may not be able to love because of neurotic fears. Because of distortions in their value system or their self esteem, they may be sexually inadequate or unfaithful. Their values may make them workaholics and they may neglect their marriage to the point that they cannot meet each other's needs. Children reared in homes with less than optimal relationships often rebel or fail to achieve. Correctives to these problems are suggested.

PHYSICIANS and their wives face the same problems in their marriages that other couples face — and a few that are seldom encountered outside the medical profession.^{1,2} Most of these latter problems were dealt with in the first two parts of this series. Let us look now at some of the problems common to all marriages and families.

PROBLEMS WITH MARRIAGES

Over-Attachment to Parents

In our second presentation, (NC

Med J 42: 176-180, 1981) we mentioned the need for husbands and wives to transform their emotional ties with their parents. In too many marriages, at least one partner is unable to do so. In most cases the reason is that one or both parents bind themselves to a child in a relationship that does not free the child to think and feel for himself. Such parents use guilt as a weapon to control the child whenever he tries to free himself. Only children are unusually susceptible to this kind of domination.

Illustrating this problem in the case of an "only son," a professional who, throughout his adult life, had lunch with his mother every Friday, took his family to dinner with her every Sunday, and always consulted her before his wife about every major decision. As an adolescent, he never rebelled. When he tried, both parents would display profound hurt and accuse him of being ungrateful, withdrawing love until he apologized and promised not to rebel again.

He met and courted his wife during his high school and college years. He had in his entire lifetime dated only one girl, his wife. They married before his professional school years and she supported him during his training. When his training was complete, he returned to practice in his hometown where he resumed his close relationship with his mother.

After 20 years of marriage and only a few months after his father's death, he began to make frequent trips out of town to visit "an old college friend." In time, his wife found out that he was having an affair. At first he denied it, but in time his paramour insisted that he inform his wife. Within months he left his wife and established a separate residence. His mother approved of his behavior and blamed his wife for the separation. She accused the wife of not meeting her son's needs.

Father-son partnerships in medicine are not uncommon, and in many cases the relationship is one of equality and mutual respect. In some instances, however, the young physician goes into practice with his father because he is emotionally bound to him. In this situation he is often treated as a child and remains dependent. Because he is considered part of the family, his mother may attempt to dominate his wife and children and to manipulate their social life.

Obviously, it is not always the husband who fails to cut the umbilical cord. Many wives are too closely bound and relegate their husbands to the role of a provider of status and material goods. In some cases the wife even excludes the husband from his role as father.

Unfaithfulness

Temptations to infidelity abound in the life of the physician — partly

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because of his close relationships with his patients and with his fellow workers on the healing team, and partly because the status of physician may make him the target of predatory women. Infidelity is a way of life for some physicians — one of whom confessed to me that he had had 36 affairs in 12 years. The usual cause of such promiscuity is a feeling of sexual inadequacy and the continual need to prove one's virility and "sex appeal." At times, particularly in the "dangerous 40s," mere ennui may lead some with no significant problems in their marriage to indulge in extramarital affairs.

More often, however, men and women yield to the temptation to establish an extramarital relationship because their affectional and sexual needs are not being met in their marriages.

Despite reconciliations there is no way of knowing how much emotional pain infidelity causes a mate and the children, or what effect a couple's behavior may have in shaping the future of their children. We can truthfully say that we have never known a case where infidelity did not hurt someone permanently.

Addiction

A major cause of disruption in marriage and family life is addiction to alcohol or other drugs. Since physicians move in circles where alcohol use is considered a sign of status and since drugs are readily available to them, it is not surprising that doctors and their spouses tend to abuse both. Abuse seriously impairs functional ability and leads to increasing incapacitation, both for work and for normal interpersonal relationships. Efforts of the victim's family to control this drinking or "doping" inevitably lead to conflict, which often erupts into physical violence. Alcoholics — physicians included — are notorious for physical and emotional maltreatment of their wives and children. One of our patients, the daughter of an alcoholic physician, was subjected to unbelievable physical and emotional abuse by both parents and to sexual abuse by her father.

Failure to Achieve Union

A problem basic to many married couples is lack of emotional oneness. This problem has many causes. One of the most common is that the couple married for the wrong reasons. In some cases pregnancy necessitated a hasty wedding — and whether the couple admits it or not, such an event creates a feeling of coercion. Even if the couple loved one another and planned to be married anyway, there is always the awareness that *they were not free* to make the decision. For a covenant, freedom of choice is necessary.

Some couples who have been dating each other for a long time, without ever falling in love and coming to know each other, marry simply because of societal expectations and sexual desires. Early in the marriage, professional development and the birth and rearing of children keep them occupied and prevent them from considering the lack of depth in their relationship. One day, when it is too late, they find that the relationship is meaningless. In far too many cases a poor marriage becomes a hopeless one when the couple no longer have their children to keep them united.

In other cases one of the partners marries on the rebound — sometimes to spite the loved one who rejected him or her, sometimes because of fear that there will not be another opportunity for marriage.

In some instances the decision to marry is made on the basis of purely practical considerations.

One of our patients, deciding it was time for her to marry, sat down and listed the assets and liabilities of her five suitors. Of the five, a physician seemed to stack up best, and she accepted his proposal. Needless to say, their marriage has led her to other inappropriate decisions. Interestingly, this woman has marked difficulty in loving anyone.

Many physicians, subject to the pressures of their career, may not "shop around" for the most suitable marriage partner and may then marry after an inadequate courtship. Taking time to get to know the person one plans to marry is good insurance against incompatibility. A marriage is much more likely to

be successful if the couple takes the time, *before* marriage, to get to know each other's families, to recognize and accept each other's liabilities, to work out differences in values, to establish compatible goals, and to decide on their respective roles (and make adjustments to these roles).³

Even in a marriage begun under the most favorable circumstances, however, it is possible for emotional estrangement to occur because of unmet needs or external pressures. Every wife and husband needs the time and the freedom to communicate wants and desires to each other. Each needs a marriage partner who has time to listen, comfort, and help solve problems. Each needs someone to help make decisions, whether small or large. Their children have similar needs.

Many physicians become so preoccupied with their careers, both during their training and after they get into practice, that they do not meet their spouses' emotional needs. This situation is most likely to occur when a physician is the victim of low self-esteem. In an effort to maintain his prestige and power base, the physician devotes himself totally to his work. Because the physician puts such a low priority on time for spouse and children, the marriage deteriorates.

Sometimes it is external pressure that leads to alteration in the attitude of one or both partners so that the marriage loses value. A woman in our society is often made to feel that she is unproductive and of little worth if she is not engaged in a career outside the home. Or, she may feel she has, in the lingo of the culture, "the right to do her own thing" regardless of responsibilities to her husband and children. As can happen with the husband, she may let this career or pursuit consume time she needs for attending to the emotional needs of her family. Unless both spouses make the marriage a high priority, it crumbles.

Sexual Dissatisfaction

Sexual problems are at the bottom of much marital unhappiness. Two of the angriest women we have seen were a surgeon's wife whose

husband had ejaculated prematurely for 20 years and a wife whose husband had been impotent for 20 years. In both cases the cause of anger was not so much the problem itself as the fact that the husband had refused to do anything about it.

We know of another case in which a physician's wife used sex to barter for her own selfish desires. For 15 years her husband had found it necessary to meet his own needs — at first by masturbation, and subsequently with an affair. When the wife finally recognized the error of her ways and tried to re-establish a normal relationship he refused. Today their marriage is a charade.

Failure to Grow

Marriages often fail because the partners do not grow intellectually and emotionally — or diverge in direction and differ in pace. The professional, physical, economic and family changes that occur with the passing years require constant adaptations and reorganization or priorities. Early in marriage, establishing of a career and raising a family tend to be all-consuming concerns. As the children grow up, preparations must be made to educate them, while at the same time assuming responsibility for aging parents and investing for one's retirement. In time, the children leave home, parents die, vitality decreases, and one has to face the physical, emotional and financial deprivations of old age. Personality growth requires that a person anticipate all these changes and develop appropriate mechanisms to cope with them. When a wife or husband does not prepare for change, problems develop.

PROBLEMS WITH CHILDREN

Rebellion

The rebellion of children against all authority — parental or legal — is a problem faced by many families today. It seems to occur with disproportionate frequency in the families of physicians. The causes are many, but most of them are related to discipline. When the father is not available to help with the job of disciplining children — as is often the case — the mother may not get

the job done adequately. As a result, the child never learns to control his impulses and becomes unmanageable.

Many physicians and their wives take an "intellectual" approach to discipline. Expecting their children to respond as adults, they carefully teach them right from wrong and when a child misbehaves they explain the consequences of his misdemeanor. No other disciplinary action is taken, and thus conflict is avoided. Parents are then thoroughly mystified when one day the police call them to come and bail their teenager out of jail.

Parents who can afford it — and most physicians can — sometimes make the mistake of giving their children *everything* they ask for in order to keep them quiet, or to make up for not giving them time and love. Some of these children, when they become adolescents and want something that belongs to someone else, simply take it. Society frowns on larceny, but the child cannot understand why he can't have what he wants when he wants it because he has always been given what he wants when he wants it.

Parents who don't spend time with their children are asking for trouble. Surrogate parents cannot, in most cases, supply children with the love and guidance they need. A feeling of rejection leads to low self-esteem and to a desperate search for acceptance. Children who feel that they are outcasts tend to associate with other outcasts, and soon they are in trouble.

Excessively rigid discipline is another cause of rebellion. Lack of trust in a child can turn him into a "sneak" who has to slip out to meet his friends. Such children often get involved sexually and may marry young in order to escape from the tyrannical dominance of their parents only to find themselves in a new prison.

Failure to Achieve

Professional parents are often disappointed in their children's level of achievement. The more successful the parents, the more prone they may be to have unrealistic expectations of their children. In

some cases the child's failure to live up to parents' high hopes is due to lack of ability. More often, however, such failures occur because the child has not learned good work habits and self-discipline. A child has to be *trained* to achieve.

SUGGESTIONS FOR SOLVING PROBLEMS

Marital Problems

Because of space limitations, it is not possible to discuss in detail the management of marital and family problems. A few general principles of counseling, however, may be helpful to the physician whose own marriage is in trouble or who finds it necessary to serve as a marriage counselor for patients or colleagues.

For marriage partners with incipient problems or couples seeking new dimensions for their marriages, we recommend the "Marriage Encounter" — a weekend program for couples that was developed in the Roman Catholic Church — or the marriage enrichment programs that are offered in some Protestant churches.

For those who are aware that something is definitely wrong, the first step is to determine the nature and origin of the problem. Is one or both partners lacking the attitudes and personality attributes that make for a happy marriage? Is one or more of the ingredients essential to success in marriage and family life missing? These attitudes, attributes and ingredients were discussed in the second of our presentations.

The second step is to determine the gravity of the problem. In some apparently unsalvageable marriages, the problem is simply that neither partner understands the need to change. In such cases, it is often possible for a marriage counselor or objective third party to be of help — provided that at least one of the partners can understand the need for remedial action. If one marriage partner, however, does not want to change and has decided to "opt out," the situation can rarely be remedied. In either case, however, the status of the marriage should be determined by careful in-

quiry, and both partners should then be confronted with an assessment of the problem.

If they choose to work to salvage the marriage, the third step is to disengage the couple from their conflict. This can be accomplished using a variety of maneuvers that decrease the number and intensity of disruptive stimuli and/or provide instruction as to how to inhibit maladaptive responses.

For example, a husband denied sex may demand it more to make his wife angry than from desire. She responds to his goading with rage. It might then be suggested to the husband that he refrain from asking for sex until the origins of conflict have been identified and resolved and to the wife that she say no, calmly, and ignore her husband's goading while they are receiving counseling.

The third step is to ascertain each partner's degree of responsibility for the problem. While it may be true that "it takes two to make an argument," we do not believe that problems in marriage always begin with both partners. It may be that one spouse has a problem (e.g., alcoholism) or *is* a problem (e.g., a nagging wife or an inconsiderate husband), and the other is unable to cope with it. Soon both become responsible for its continuation. It is, therefore, necessary to trace the problem back to its origin and accurately assess responsibility.

Once this has been done, one or both parties must be motivated to bring about a change in the behaviors that cause conflict. At this point we try to help the couple cease, or at least, reduce their negative emotional responses to the conflict, so that they can free themselves for positive responses. This positive way of responding has been called "The Assertive Lifestyle." In this lifestyle the couple, instead

of *expressing* or *repressing* their feelings, are encouraged to *confess* them.⁴ At the same time, each partner is encouraged to look at the other positively by determining what assets that person has, instead of accentuating the familiar faults.

In an effort to encourage better communication to seek affirmation, we sometimes ask husband and wife to write each other love letters. In her letter, the wife tells her mate why she loves (or should love) him, and the husband writes a similar letter to his wife. Once they have communicated positive things, it is easier for them to discuss their disagreements and to resolve differences.

For a true reconciliation, it is essential that both partners forgive each other. Forgiveness is, of course, impossible if a selfish desire for revenge remains. People with a strong faith in God usually are able to forgive, simply because they know that God requires His children to love one another and that His forgiveness is available only to those who have forgiven each other.

How does one bring about such changes in people? Humanistic marriage counseling that ignores moral absolutes may not help, but counseling that respects and uses moral absolutes often can help. Even though some marriages appear not to be salvageable, an attempt should be made to heal them. Miracles do happen.

Problems with Children

When dealing with children's problems, we first look at the marriage that established the home in which the child was reared. A child's problem will not change unless the parents change; therefore, therapy of the whole family is a must.

SUMMARY

Like others, physicians and their spouses can be unhappy. In many cases one source of this unhappiness is a poor marriage or disturbed family life. Since a successful marriage requires that those who contract it be mature, we have in our previous presentations defined maturity before listing the principles of a happy marriage and family life. In this final paper, some of the problems encountered in physicians' marriages have been described.

It is our belief that even the worst of marriages can be redeemed if the ingredients essential for change are present. These ingredients should be available to any two people who love each other, or *desire* to love each other, and who possess constructive attitudes. They must desire humility and openness, be willing to accept responsibility, and be willing to forgive if they are to overcome their selfish attitudes and heal their relationship.

Physicians who are in the right relationship with their spouses, and their children and who possess appropriate values will then be free to achieve success in other relationships and in their profession. Living happy, productive lives they can serve as appropriate role models for all who come to them for help. In their special social status as physicians, they have a special opportunity to be leaven in a society with many deteriorating families.

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Toxic Encounters of the Dangerous Kind

Camphor Poisoning

Unfortunately, many old medicinal products which are not only completely useless but dangerous as well are still available over the counter (OTC). High on this list of useless, dangerous OTC preparations are the camphor products, which have been incriminated in poisonings for more than 140 years. Over 500 cases of camphor poisoning are reported annually, yet the drug is freely available in two ounce bottles as camphorated oil as well as in dozens of other OTC preparations. Most poisonings in both children and adults are due to accidental substitution of camphorated oil for other OTC products, especially castor oil, but also cod liver oil and cough and colic medications.

The human lethal dose of camphorated oil is 50-500 mg/kg. One teaspoon of camphorated oil contains 1,000 mg and one tablespoon of Vick's Vaporub 700 mg. Mothers once gave Vick's Vaporub by the spoonful and advised letting it melt in the mouth for throat and colds and rubbed more on the chest at the same time. Little wonder that children less than one year old are particularly vulnerable when intoxication can result from vapor inhalation and skin absorption as well as from ingestion.

Major toxic manifestations include CNS stimulation leading to seizures and

irritation of the mouth, throat and stomach. Seizures are almost inevitable in small children even with relatively small doses and do not necessarily portend a bleak prognosis. The drug is maximally absorbed with systemic effects possible as early as 15-20 minutes after absorption with maximal effects usually occurring within 90 minutes. The strong and characteristic odor is usually evident quite early.

Treatment remains controversial for there is no true antidote. Balanced therapy should include emptying the stomach by lavage with normal saline; because convulsions can occur suddenly, emesis is probably contraindicated. Lavage should be followed by a saline laxative such as magnesium or sodium sulfate. Seizures may be controlled by the use of barbiturates or intravenous diazepam (I prefer diazepam). Dialysis with a resin column or lipid hemodialysis can be used in severe cases although this is rarely indicated.

There is no place for this drug in modern medicine. It has to go!!!

Ronald B. Mack, M.D.
Chairman, Committee on Accidents
and Poison Prevention
North Carolina Chapter of the
American Academy of Pediatrics

NORTH CAROLINA MEDICAL CURIOSITIES

TWO PEOPLE IN ONE

Chang and Eng were born in Siam in 1811. This historically famous pair of "joined together" twins spent much of their life in North Carolina.

Their early life was spent in a tiny fishing village 60 miles north of Bangkok, where their life was like other boys in that village despite their "oddity." In 1829 they were brought to Boston by a Scottish merchant named Robert Hunter. They were an immediate hit among laymen but were also of medical interest. They were examined at many medical universities because of the unusual ligament that connected these two men.

While on stage, they often performed in unison complex movements which included bending their bodies in all directions and turning somersaults. They would also carry a portly member of the audience as

much as 100 feet without showing signs of strain. They were equally popular during several tours of Europe.

In the mid-1830s, already successful, the twins joined P. T. Barnum's American Museum in New York City. In 1839, Chang and Eng were 28 years old and having appeared in public for 10 years and amassed sufficient funds, they decided to settle down. They were tired of the hard, roving life of itinerant curiosities. The brothers liked the lifestyle in Wilkesboro, North Carolina, where most inhabitants lived in log cabins and earned their living by farming. The twins began their retirement from show business by opening a country store in Wilkesboro but were soon busy as farmers. By the end of the first year they had bought 110 acres in nearby Traphill and had built a house.



Eng and Chang
—Courtesy of National Library Medicine.

Eng and Chang, the original Siamese twins

In October, 1839, soon after they had settled there, the twins filed in Wilkes Superior Court a declaration of intent to become United States citizens. They had no last name so were listed simply as "Chang and Eng, Siamese Twins." In 1844 they decided that they should have a family name like their neighbors, so at the fall term of Wilkes Superior Court they presented a petition to adopt the name Bunker and the request was granted.

Not far from the Chang/Eng property lived David Yates, a Quaker with nine daughters, who was a farmer and part-time clergyman. Chang and Eng began to go out with two of his daughters — Adelaide and Sarah Ann. The twins were in their 30s and the girls were about 19 and 20 years of age. The public was initially appalled, making threats of various sorts to Yates and to the twins. Despite the warnings, they continued their courtship and were married in April of 1843 — a double wedding. Eng was married to Sarah Ann and Chang to Adelaide. The two couples moved into the twins' house and settled down to life together. It was a novel married life and required novel adjustment, but different as it was the fundamentals were the same. Eng fathered seven boys and five girls and Chang seven girls and three boys. All twenty-two children were normal except for a son and a daughter of Chang's who were deaf mutes.

Over the years, the families grew too big to remain comfortable under the same roof. The twins bought land in White Plains in Surry County and built two houses about a mile apart — one for each family.

Chang and Eng spent three days in one house and the next three days in the other. This schedule was followed year in and year out, in winter and summer, and in sickness and health. Eng was the master in his house and Chang made the rules in his house.

The twins did not serve in the Civil War but were Southerners, and well-to-do ones at that. The war brought financial ruin to them. Before the war, they sold most of their real estate, taking notes which were secured by mortgage. The notes were repaid with Confederate money which proved to be worthless. The brothers owned slaves, but the war set them free. Moreover, the economy was at a stand-still, so that there was no market for the crops the twins had grown on their farms. Therefore, reluctantly, Chang and Eng returned to P. T. Barnum. After a tour in Europe, during which the twins sometimes included their wives and children in their performances, they returned home. At this time Chang suffered a stroke and was henceforth partially paralyzed on the right side.

In January, 1874, while home in North Carolina, Chang died of bronchitis during the middle of the night. Although a doctor from Mount Airy was summoned, he did not arrive soon enough. The next morning Eng also stopped breathing, although he had been completely well the evening before.

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Editorials

MIDWINTER MEETING OF THE EXECUTIVE COUNCIL OF THE NORTH CAROLINA MEDICAL SOCIETY February 7, 1981

In conjunction with the Officers Conference sponsored by the Committee on Communications in Raleigh, the Executive Council held its first meeting of 1981 at the Headquarters Building on February 6 and 7. This report summarizes the council's discussions.

A significant action of the council affecting the future of the medical society was the decision to secure a qualified management agency to conduct a survey of its functions and submit proposals for more effective operational efficiency. A similar review in 1957 produced the Edlund Report which established the office of executive director and treasurer, and led to the reorganization of committees under the commission system. The last authorized independent survey of the overall medical society operation was done in 1969 by the Florida office of the firm of Rothrock, Reynolds and Reynolds. Expansion of services, a rising budget and increasing managerial responsibilities convinced the council of the need for an indepth review of the total operation.

The chairman of the finance committee, Dr. Ernest Spangler, created an atmosphere of relief with the prospect of a balanced budget in 1981 and possibly in 1982. Consideration of a dues increase was not considered necessary at this time.

Dr. David Welton, chairman of the AMA delegation, reported a victory for the AMA in the suit brought by the chiropractors. He also reported the action of the AMA House of Delegates opposing the use of public funds in support of prepaid HMOs and IPAs, thus affirming the position of the North Carolina House of Delegates last May. There is, however, a strong possibility that AMA dues will have to be increased in the near future. Dr. Welton also expressed guarded optimism about the chances of Dr. James Davis' candidacy for vice-speaker of the AMA House of Delegates and urged the active support of North Carolina doctors.

Dr. John Dees, chairman of the committee on legislation, reported enthusiastic acceptance by the members of the General Assembly of the "Doctor of the Day" projects. He expressed opposition to a proposed Nurse Practice Act which would restrict the supervised functions of ancillary hospital personnel, allow direct third party payments for nursing service, and expand the practice functions of nurses. He also

indicated opposition to a bill to establish an independent commission, similar to the Public Utilities Commission, to control hospital rate setting. Approval was requested for exempting support articles from the sales tax, such as artificial limbs, crutches, wheelchairs, etc., needed for disabled individuals and for a bill to establish a joint committee to consider relations between medicine, nursing and hospital administration. Dr. Dees urged that local physicians establish communications with their neighborhood political party precincts to improve grass roots contact with legislators.

The council devoted considerable time to detailed reports from representatives of the State Bureau of Investigation on the problems of drug abuse and of Blue Cross Blue Shield of North Carolina on the incidence of hospital admissions of policy holders and Medicare recipients with particular reference to the various North Carolina counties. These reports were received as information to be referred to the appropriate committees for further study.

Before adjournment the resignation of First District Councilor, Dr. Edward B. Eadie of Elizabeth City, was announced. A temporary appointment was made by the Executive Council. Dr. Robert Earl Lane of Edenton will fill the vacancy until the next meeting of the House of Delegates. At that time an appointment for the unexpired term will be made.

J.S.R.

ALCOHOL AND THE HEART

*What ruins life and stops the heart?
Alcohol! Yes, alcohol!*

—Old Temperance Song

One of the nice things about medical fashion is that yesterday's evil may be tomorrow's virtue, if the public be sufficiently sold. Take alcohol, the curse of the working class. Its virtues are glorified in advertisements in leading magazines and newspapers, its necessity as a social lubricant well recognized and its dangers perhaps obscured by its social position. But still there is evidence that alcohol is the most abused drug in the United States, not only by teenagers but by their role-models, physicians. Donahue on a recent Monday morning concerned himself with physician members of Alcoholics Anonymous and the North Carolina Governmental Evaluation Commission has urged that the North Carolina Board of Medical Examiners be required to "refer to the North Carolina Medical Society Committee on Physicians' Health

and Effectiveness all physicians whose health and effectiveness have been significantly impaired by alcohol, drug addiction or mental illness." A program to re-educate such physicians has been started at the University of North Carolina School of Medicine.

Yet already at parties have we been gleefully informed that the consumption of alcohol is associated with an increase in the concentration of high density lipoprotein cholesterol (HDL-C) in the blood of the consumer. Everyone must know that the level of HDL-C is inversely related to the incidence of coronary artery disease and that the increase in the former is distinct from the increase in blood level induced by vigorous physical exercise.¹ Thus is a neat rationalization provided, supported by data, by those who seek comfort in feeling good about themselves. Of course many of them feel so good about themselves that they overeat, ingest too much salt and are not always compliant with their antihypertensive therapies.

But the emotional gains from the new word about alcohol and HDL-C may be short-lived. Mitchell and his colleagues² have now demonstrated that a statistically significant relationship exists between alcohol intake and blood pressure — systolic, diastolic and mean.

J.H.F.

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COFFEA ARABICA

Technologically simple societies have blamed the unseen for calamities, incriminating witches, imps, demons, trolls for imagined and obvious woes. Advanced scientific societies secure in the evidence of the senses have no such culprits to chastise or propitiate when evil strikes. But a culture with roots in puritanism has to have a civil mechanism to discharge guilt if utopia is to be established on earth. So it becomes necessary to examine carefully our pleasures which may distract us from the path of edification in pursuit of perfection.

Pleasure then may have to struggle to survive in a civilization given to an unremitting search for absolutes in science, government and matters of the spirit. Yet can such a body politic be called a civilization if it ignores the need to please the eye with art, the ear with song and the palate with good tastes? When we eat and drink together, we share our treasures, our thoughts and our divergent humanity.

Still despite the advantages of such camaraderie, we are told that most of what we eat and drink may be bad for us. Alcohol has been a favorite target, there being something particularly dangerous about the cup that cheers. Certainly there is if it is mixed with gasoline or if it is used as the solution for all life's ills. But almost

every society has devised something fermented for its pleasure and for its rituals.

The situation is less clear with coffee, that great fringe benefit which makes life in the hives of bureaucracy so much more tolerable. The membership of the National Caffeine Society is without number, without obligatory initiation fee and without dues. Abigail Van Buren reports that Americans each day drink 500 million cups of coffee and what more reliable observer of our mores can we seek? Tea, too, has its lovers and its drinking has led to rituals considerably more elaborate than those followed by lovers of caffeine. Tea ceremonies have been more likely to mark leisurely, hierarchical societies rather than compulsively mobile ones like ours and tea itself has a different medical niche from coffee, having less caffeine, no sodium and about 2.5 mEq potassium per cup.

Caffeine is a more potent central nervous system stimulant than the xanthine in tea, theobromine, and is notorious as a provoker of rapid pulses and palpitations, an apostle of wakefulness and a cause of gastrointestinal symptoms. If an agent can make itself known to its devotees in such a variety of ways, if it induces symptoms, it can be easily suspect as possessing occult powers. Might coffee drinkers really enjoy the side effects? Might there not be something morally weakening if 500 million cups of it are drunk daily in a great nation?

When coffee was introduced in Europe, coffee houses sprang up in such centers of culture and sophistication as London and Vienna. William Harvey, the first great modern physician, was an early devotee, perhaps because his brothers were successful coffee merchants in London and the coffee houses of central Europe retain their attractions to this day, particularly when coffee is served mit schlag, heavy, heavy cream.

But the nannies of the Potomac, the Food and Drug Administration, have become concerned about the coffee ceremony in the American marketplace. And well they might because caffeine crosses the placenta and is a teratogen for rats when given by intubation in doses of 30-125 mg/kg. Of course the usual cup of coffee contains 100-150 mg of caffeine, 1.4-2.1 mg/kg for the standard 70 kg laboratory human and metabolism differs in man and rat but pregnant and potentially pregnant women have been advised by the FDA to eliminate their coffee breaks.¹ Yet scoffers may eventually have to turn to prayer. Remember when cigarettes were high fashion and industrial cities were proud of the smog which proved they were in the vanguard of progress. Still it seems as if our modern age having lost faith in Satan and his helpers has had to turn the mundane into devils which can then be measured and have their statistical significance determined.

J.H.F.

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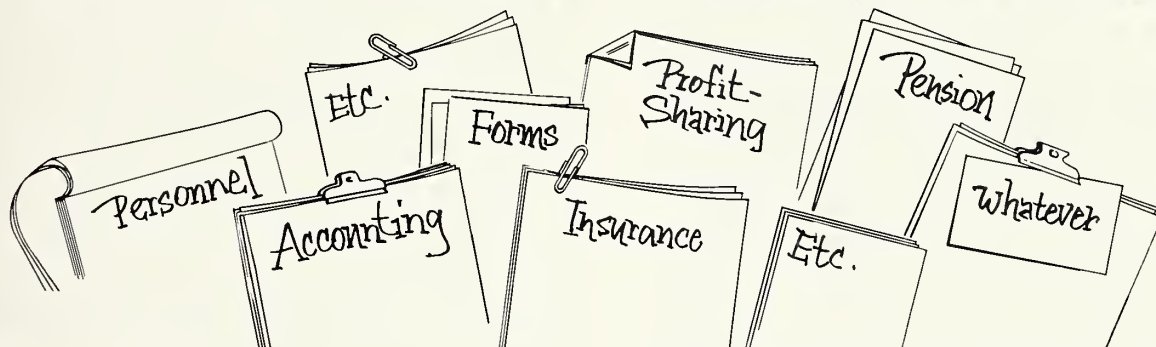
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By Karen Zupko, Director
Department of Practice Management
Division of Medical Practice
American Medical Association

Thinking of incorporating your practice? Personnel problems getting you down? Setting up a pension or profit-sharing plan? Getting seemingly contradictory advice from your attorney, accountant, broker, and insurance man? Well, maybe it's time for you to find a medical management consultant.

Professional medical management consultants come from a variety of backgrounds — law, accounting, and business. Most consultants are organized into firms, and individual consultants, like physicians, most often have specialties. But the key thing to remember is that these management advisers specialize in serving physicians and dentists and are well acquainted with the business side of medical practices.

What can you expect in the way of advice and assistance? Firms vary, but most offer services in three broad areas: practice management, personal financial management, and accounting and taxes.

Having a consultant doesn't mean that you won't need the services of an attorney, accountant, or architect. But if

you include your consultant in discussions with your other advisers you will have the benefit of a valuable second opinion.

Think of it this way: if your business affairs need "doctoring," a medical consultant is like the family practitioner who can take care of most ailments. And like a family doctor, they will refer you to a specialist if you need one. Specifically, you can expect assistance in office design, accounts receivable management, tax, personnel hiring, training, and policies, big equipment purchases, and the like.

What do they charge?

Fees vary with the time and effort to do what you ask. Few bill on a daily rate basis anymore. Most charge between \$50.00 and \$100.00 an hour and that includes travel time to your office and the time it takes to write reports. Rates for a complete practice survey range between \$400 to \$1,600 depending on your type of practice. Most consultants will offer to quote a fee before taking you on as a client, but if they don't, be sure to ask. You should also know that most consulting firms don't accept fees or commissions from suppliers, pharmaceutical companies, insurance companies, or other commercial interests.

How do you judge qualifications?

After several years of experience, management consultants can voluntarily join a professional society and this is one way you can check their credentials. These societies establish ethical standards for members and provide continuing education courses, which is as important for them as it is for you.

If the consultants you contact have "C.P.B.C." after their names, this means they have passed a comprehensive written examination on various aspects of practice and financial management. Nearly 100 medical management consultants in the U.S. (of approximately 500 in business) have passed the test, which is administered by the Institute for Certified Professional Consultants.

To find a medical management consultant in your area, you can contact one of the professional societies listed below. They will refer you to local members. After you get the names, call and talk with one or two before committing yourself. Your search for a consultant is like a patient looking for a doctor — it pays to check around.

National societies for professional medical management consultants are:
Society of Professional Business Consultants (SPBC)

221 North LaSalle Street
Chicago, IL 60601
(312) 245-1862

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Levinson, Sidney Leonard, (IM) 1402 Wildwood Drive, Chapel Hill 27514

Lewis, Kapaunes Romona, (STUDENT) 610 Douglas St., Apt. 118-C, Durham 27705

Morrow, Paul Lowell, (RESIDENT) 752 Old Mill Road, Chapel Hill 27514

Young, W. P. Wiltsee, (PD) UNC Student Health Service, Chapel Hill 27514

FORSYTH-STOKES-DAVIE

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Hoots, Anthony Von, (STUDENT) 1905-G Franciscan Terrace, Winston-Salem 27107

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Poulton, Thomas Jon, 425 Avalon Road, Winston-Salem 27104

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Verross, William Edward, (OBG) 6000 Gate Post Road, Charlotte 28211

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Baden, Thomas James, (IM) Toe Valley Medical Associates, 408 Altapass Road, Spruce Pine 28777

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Pollock, Hoke Dickinson, (OTO) 1626 Doctor's Circle, Wilmington 28401

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Levine, Gary Ira, (FP) Courtney Square, Apt. 11-A, Greenville 27834

Pipkin, Nicky Lynn, (STUDENT) 920 W. Main St., Apt. 3, Williamston 27892

Willson, Charles Frederick, (PD) 106 Woodhaven Court, Greenville 27834

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Reid, John Heyward, (D) 2941 New Bern Avenue, Raleigh 27610
Wynia, Virgil Howard, (CD) 3614 Haworth Drive, Raleigh 27609

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Stanley, Ronald Jay, Medical Arts Building, Boone 28607

WILSON

Bowen, Michael Lynn, (FP) P.O. Box 310, Stantonsburg 27883
Sunderman, Michael Robert, (FP) P.O. Box 310, Stantonsburg 27883

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Please note: 1. The Continuing Medical Education Programs at Bowman Gray, Duke, East Carolina and UNC Schools of Medicine, Dorothea Dix, and Burroughs Wellcome Company are accredited by the American Medical Association. Therefore CME programs sponsored or cosponsored by these schools automatically qualify for AMA Category I credit toward the AMA's Physician Recognition Award, and for North Carolina Medical Society Category A credit. Where AAFP credit has been requested or obtained, this also is indicated.

2. The "place" and "sponsor" are indicated for a program only when these differ from the place and source to write "for information."

April 2-3

5th Annual Cancer Research Symposium

Place: UNC School of Medicine

Fee: None

Credit: 11 hours

For Information: William B. Wood, M.D., Director of Continuing Medical Education, Chapel Hill (919) 933-2118

April 2-4

Glaucoma & Perimetry for Ophthalmologists

Place: Pinehurst

Fee: \$275

Credit: 18 hours

For Information: William B. Wood, M.D., Director of Continuing Medical Education, Chapel Hill (919) 933-2118

April 3-4

"Practical Pediatrics"

Place: Bowman Gray School of Medicine

Fee: \$50

Credit: 9 hours

For Information: Emery C. Miller, M.D., Assoc. Dean, Bowman Gray School of Medicine, Winston-Salem

April 4-5

"5th Annual Radiology Update"

Place: Bowman Gray School of Medicine

Fee: \$50/75

Credit: 9 hours

For Information: Emery C. Miller, M.D., Assoc. Dean, Bowman Gray School of Medicine, Winston-Salem

April 8

"Current Concepts in Cardiology"

Place: Pitt County Memorial Hospital, Greenville

Fee: \$15

Credit: 3 hours

For Information: F. M. Simmons Patterson, M.D., Assistant Dean for Continuing Medical Education, East Carolina University School of Medicine, Greenville, N.C. 27834

CYCLAPEN-W® (cyclacillin)

Indications

Cyclacillin has less *in vitro* activity than other drugs in the ampicillin class and its use should be confined to these indications: Treatment of the following infections:

RESPIRATORY TRACT

Tonsillitis and pharyngitis caused by Group A beta-hemolytic streptococci

Bronchitis and pneumonia caused by *S. pneumoniae* (formerly *D. pneumoniae*)

Otitis media caused by *S. pneumoniae* (formerly *D. pneumoniae*) and *H. influenzae*

Acute exacerbation of chronic bronchitis caused by *H. influenzae**

*Though clinical improvement has been shown, bacteriologic cures cannot be expected in all patients with chronic respiratory disease due to *H. influenzae*.

SKIN AND SKIN STRUCTURES (integumentary) infections caused by Group A beta-hemolytic streptococci and staphylococci, non-penicillinase producers

URINARY TRACT INFECTIONS caused by *E. coli* and *P. mirabilis*. (This drug should not be used in only *E. coli* and *P. mirabilis* infections other than urinary tract.)

NOTE: Perform cultures and susceptibility tests initially and during treatment to monitor effectiveness of therapy and susceptibility of bacterio. Therapy may be instituted prior to results of sensitivity testing.

Contraindications Contraindicated in individuals with history of an allergic reaction to penicillins.

Warnings Cyclacillin should only be prescribed for the indications listed herein.

Cyclacillin has less *in vitro* activity than other drugs of the ampicillin class. However, clinical trials demonstrated it is efficacious for recommended indications.

Serious and occasional fatal hypersensitivity (anaphylactoid) reactions have been reported in patients on penicillin. Although anaphylaxis is more frequent following parenteral use, it has occurred in patients on oral penicillins. These reactions are more apt to occur in individuals with history of sensitivity to multiple allergens. There are reports of patients with history of penicillin hypersensitivity reactions who experienced severe hypersensitivity reactions when treated with a cephalosporin. Before penicillin therapy, carefully inquire about previous hypersensitivity reactions to penicillins, cephalosporins and other allergens. If allergic reaction occurs, discontinue drug and initiate appropriate therapy. Serious anaphylactoid reactions require immediate emergency treatment with epinephrine. Oxygen, I.V. steroids, airway management, including intubation, should also be administered as indicated.

Precautions Prolonged use of antibiotics may promote overgrowth of nonsusceptible organisms. If superinfection occurs, take appropriate measures.

PREGNANCY: Pregnancy Category B. Reproduction studies performed in mice and rats at doses up to 10 times the human dose revealed no evidence of impaired fertility or harm to the fetus due to cyclacillin. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, use this drug during pregnancy only if clearly needed.

NURSING MOTHERS: It is not known whether this drug is excreted in human milk. Because many drugs are, exercise caution when cyclacillin is given to a nursing woman.

Adverse Reactions Oral cyclacillin is generally well tolerated. As with other penicillins, untoward sensitivity reactions are likely, particularly in those who previously demonstrated penicillin hypersensitivity or with history of allergy, asthma, hay fever, or urticaria. Adverse reactions reported with cyclacillin: diarrhea (in approximately 1 out of 20 patients treated), nausea and vomiting (in approximately 1 in 50), and skin rash (in approximately 1 in 60). Isolated instances of headache, dizziness, abdominal pain, vaginitis, and urticaria have been reported. (See WARNINGS) Other less frequent adverse reactions which may occur and are reported with other penicillins are onemia, thrombocytopenia, thrombocytopenic purpura, leukopenia, neutropenia and eosinophilia. These reactions are usually reversible on discontinuation of therapy.

As with other semisynthetic penicillins, SGOT elevations have been reported.

As with antibiotic therapy generally, continue treatment at least 48 to 72 hours after patient becomes asymptomatic or until bacterial eradication is evidenced. In Group A beta-hemolytic streptococcal infections, at least 10 days' treatment is recommended to guard against risk of rheumatic fever or glomerulonephritis. In chronic urinary tract infection, frequent bacteriologic and clinical appraisal is necessary during therapy and possibly for several months after. Persistent infection may require treatment for several weeks.

Cyclacillin is not indicated in children under 2 months of age.

Patients with Renal Failure: Cyclacillin may be safely administered to patients with reduced renal function. Due to prolonged serum half-life, patients with various degrees of renal impairment may require change in dosage level (see DOSAGE AND ADMINISTRATION in package insert).

Dosage (Give in equally spaced doses)

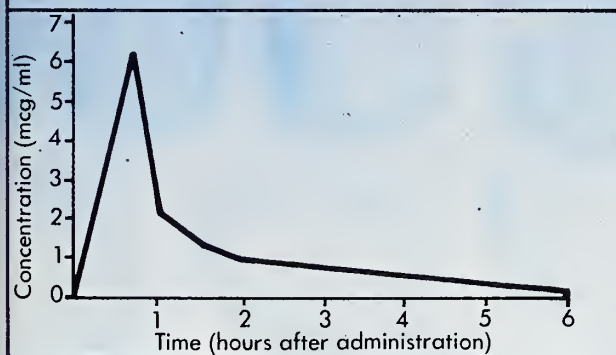
| INFECTION | ADULTS | CHILDREN* |
|-----------------------------|-------------------------|--|
| Respiratory Tract | | |
| Tonsillitis & Pharyngitis | 250 mg q.i.d. | body weight < 20 kg (44 lbs) 125 mg q.i.d. body weight > 20 kg (44 lbs) 250 mg q.i.d. |
| Bronchitis and Pneumonia | | |
| Mild or Moderate Infections | 250 mg q.i.d. | 50 mg/kg/day q.i.d. |
| Chronic Infections | 500 mg q.i.d. | 100 mg/kg/day q.i.d. |
| Otitis Media | 250 mg to 500 mg q.i.d. | 50 to 100 mg/kg/day† |
| Skin & Skin Structures | 250 mg to 500 mg q.i.d. | 50 to 100 mg/kg/day† |
| Urinary Tract | 500 mg q.i.d. | 100 mg/kg/day |

*Dosage should not result in a dose higher than that for adults, †depending on severity.

Half the dose
is absorbed in 9 minutes!
compared to 32 minutes for ampicillin.*



Mean blood levels in mcg/ml after 250 mg cyclacillin single oral dose



- Rapid, virtually complete absorption from GI tract
- Exceptionally high peak blood levels — 3 times greater than ampicillin (Clinical efficacy may not always correlate with blood levels.)
- Rapidly excreted unchanged in urine — 1½ times faster than ampicillin

*Based on T_{1/2} values for single oral doses of 500 mg cyclacillin tablet and 500 mg ampicillin capsule. Data on file, Wyeth Laboratories.

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Wyeth Laboratories • Philadelphia, Pa. 19101



Fewer episodes of diarrhea and rash than with ampicillin in studies to date.

Efficacy proven in the treatment of bronchitis, pneumonia, and upper respiratory infections.†

In 117 patients, 73 with bronchitis/pneumonia caused by *S. pneumoniae* and 44 with streptococcal sore throat caused by Group A beta-hemolytic streptococcus, CYCLAPEN®-W achieved a clinical response rate of 100%! Bacterial eradication was 95% and 86% respectively.

†Due to susceptible organisms.

See important information on facing page.

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**NEW
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April 9 and 10

"Third Annual Health Law Forum"

Place: Ramada Inn, Greenville

Fee: \$100

Credit: 7 hours

For Information: F. M. Simmons Patterson, M.D., Assistant Dean
for Continuing Medical Education, East Carolina University
School of Medicine, Greenville, N.C. 27834

April 11-12

Geriatric Anesthesia

Place: UNC School of Medicine

Fee: \$100

Credit: 9.5 hours

For Information: William B. Wood, M.D., Director of Continuing
Medical Education, Chapel Hill (919) 933-2118

April 16

Movement Disorders Update

Place: UNC School of Medicine

Fee: \$20

Credit: 5 hours

For Information: William B. Wood, M.D., Director of Continuing
Medical Education, Chapel Hill (919) 933-2118

April 16-17

"Third Annual Health Law Forum"

Place: Pitt County Memorial Hospital, Greenville

Fee: \$100

Credit: 8.5 hours

For Information: F. M. Simmons Patterson, M.D., Assistant Dean
for Continuing Medical Education, East Carolina University
School of Medicine, Greenville 27834

April 22

"Drug Interactions and Reactions"

Place: Lee County Hospital

Fee: \$12

Credit: 3.5 hours

For Information: R. S. Cline, M.D., (919) 775-2111, ext. 219

April 24-25

Symposium on Metabolic Bone Disease

Place: Velvet Cloak, Raleigh

Fee: \$20

Credit: 9 hours

For Information: William B. Wood, M.D., Director of Continuing
Medical Education, Chapel Hill (919) 933-2118

April 27

Update on the Care of the Diabetic Patient

Place: Howard Johnson Motel, Greensboro

Fee: \$35

Credit: 5 hours

For Information: William B. Wood, M.D., Director of Continuing
Medical Education, Chapel Hill (919) 933-2118

April 29-30

Current Concepts in Hemostasis and Thrombosis

Place: UNC School of Medicine

Fee: \$100

Credit: 14 hours

For Information: William B. Wood, M.D., Director of Continuing
Medical Education, Chapel Hill (919) 933-2118

May 13-14

Respiratory Care Symposium: Breath of Spring, 1981

Place: Bowman Gray School of Medicine

Fee: \$35

Credit: 9 hours

For Information: Emery C. Miller, M.D., Assoc. Dean for Con-
tinuing Education, Bowman Gray School of Medicine

May 14-16

N.C. Chapter of American College of Surgeons

Place: Center for Continuing Education, Appalachian State

For Information: J. S. Mitchener, Jr., M.D., P.O. Box 1808,
Laurinburg, N.C. 28352

May 15

"Pediatrics Day"

Place: Pitt County Memorial Hospital, Greenville

Fee: \$30

Credit: 5 hours; AMA Category I; AAFP approval requested
For Information: F. M. Simmons Patterson, M.D., Assistant Dean
of Continuing Medical Education, East Carolina University
School of Medicine, Greenville

May 22-24

10th Annual Pediatric Pulmonary Disease

Place: Duke University Medical Center

Fee: \$50

Credit: 12 hours

For Information: Alexander Spock, M.D., P.O. Box 2994, Duke
University Medical Center, Durham, N.C. 27710. For informa-
tion: (919) 774-6518

June 3

"What's New in Cardiovascular Imaging — Echo, Nuclear &
CAT?"

Place: Pitt County Memorial Hospital, Greenville

Fee: \$30

Credit: 6 hours

For Information: F. M. Simmons Patterson, M.D., Assistant Dean
for Continuing Medical Education, East Carolina University
School of Medicine, Greenville, N.C. 27834

The items listed in the above column are for all the six months
immediately following the month of publication. Requests for listing
should be received by "WHAT? WHEN? WHERE?", P.O. Box
27167, Raleigh 27611, by the 10th of the month prior to the month in
which they are to appear. A "Request for Listing" form is available
on request.

AUXILIARY TO THE NORTH CAROLINA MEDICAL SOCIETY

RESEARCH AND ROMANCE OF MEDICINE

Writing a book is invariably an isolating, tedious, even perilous task. Fortunately, there are sufficient rewards as well so throughout the centuries there have been the storytellers, the theorists and philosophers as well as the recorders of history willing to commit themselves to the written word.

Within the North Carolina Medical Society Auxiliary at least five of our county auxiliaries in recent years have sponsored the recording of the history of medicine in their areas. The Southern Medical Association Auxiliary with its on-going project of the Research and Romance of Medicine has been one of the prime movers in this effort. At the annual Southern Medical Association Auxiliary convention awards are currently given for the best of these, and North Carolina has fared well in competition.

These books have not been written by professionals but by members of the auxiliaries, wives of the physicians, who have dedicated much time and talent to put them together. First comes the research which involves many telephone calls, letters and questionnaires, and then combing libraries and attics, delving into church and court records — anywhere that some record of the past can be found. Once the facts have been compiled, they must be placed in order in some reasonable format and written about. Writing alone can take a year of concentrated effort and even longer when the author is doing it off the corner of the dining room table after taking care of her other respon-

sibilities. Finally, there is a matter of financing such a venture. These little volumes, which appear in very limited editions, if not worth their weight at today's gold prices, are certainly worth it in silver. Medical auxiliaries operate on limited budgets as is the case with most volunteer service organizations. The researchers and writers work for love alone, but publishing prices come high. The medical histories are sold at cost, sometimes underwritten by the county medical society, often aided by a garage sale or a

pre-publication subscription drive to defray immediate expenses.

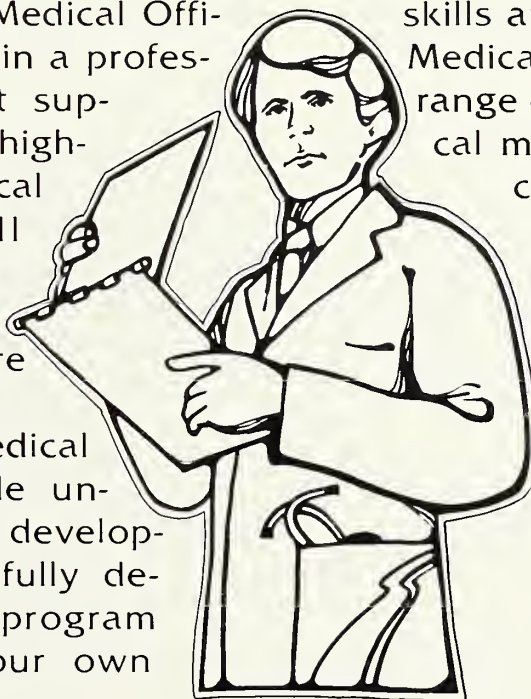
In 1969, *Union County Men of Medicine* was published by the local auxiliary. It was compiled and written by all the members of the group at that time and is a comprehensive history of medicine in the county and contains a biographical listing of every physician who has practiced in the area. The auxiliary is presently planning an up-date of the book.

The Guilford-High Point Medical Auxiliary in 1974

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published a little volume entitled *Out of the Black Bag* in honor of Doctor's Day of that year. The book was researched, compiled and edited by Mrs. Chester C. Haworth, Jr., with pen and ink drawings by Mrs. N. Hampton Chiles. It includes a history of the area, a brief biographical listing of all the physicians who have practiced in the High Point-Jamestown area and an addendum which gives some interesting old-fashioned remedies for various ills plus a reprint of an 1870 newspaper article "How Many Wives Fade." It was written in behalf of the over-worked wife and mother of the day, who had few of the opportunities for self-expression that now exist.

The Lonely Road, a history of the "physicks and the physicians of the lower Cape Fear (1736-1976)," was published by the New Hanover, Brunswick, Pender Medical Auxiliary in 1977. The volume was researched and prepared by the Research and Romance of Medicine committee of the auxiliary with Jean Poole (Mrs. Tilghman) as chairman and text by Diane Cashman (Mrs. John). The book contains an extensive history, both medical and otherwise, down through the years of this area which has been so much a part of our nation's history. The biographies of all the physicians who have practiced there are also comprehensive. In 1980 the Southern Medical Auxiliary gave first place awards to the book and to Mrs. Poole and Mrs. Cashman.

Rowan-Davie's *The Story of Medicine (1753-1976)* was another first place winner. It entered the competition the year it was published in 1979. This book by

the Rowan Medical Auxiliary was edited by Irene Field (Mrs. Bob L.) and Martha Agner (Mrs. Roy A. Jr.). It was eight years in the making. The history text is divided into three parts: 1753-1900, written by James S. Brawley; 1900-1976, which covers local medical institutions, compiled by the editors and a section "Recollections of Medicine" by Frank B. Marsh. The biographies of the physicians are comprehensive adding to their genealogical importance.

Sketches: Sampson County M.D.'s (1736-1980), after four years of effort, finally emerged on the scene the very day in January 1981 that Washington, D.C., honored the liberated hostages. This book was edited by Jessie Owens (Mrs. William) and me, Anne Hubbard (Mrs. Hampton). It is an up-date of a previous volume, *Sampson County M.D.'s (1736-1957)*, compiled and edited by Dorothy T. Royal (Mrs. Donnie) with the assistance of Kathleen Matthews Carter, a physician's daughter, and Claude H. Moore, a local historian. It was originally published the year that Mrs. Royal was the state president of the Medical Society Auxiliary as I am about to become. This is mere coincidence. Writing a medical history is not a necessary prerequisite in our county for the position.

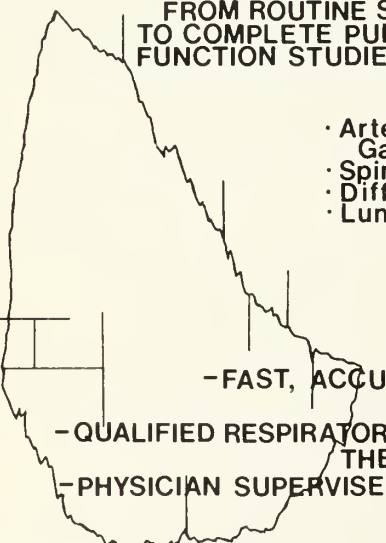
Sketches has a history of Sampson County Memorial Hospital and detailed biographies of all the physicians who have practiced in the county which "sketch the history and growth of the county through the years." It also has a section of biographies of physicians with ties to Sampson County who practice elsewhere.

During the 1981-1982 North Carolina auxiliary year Jessie Owens will be the state chairman of Research and Romance of Medicine. She brings to the position a great interest in history and a devotion to detail which is so necessary in compiling such a volume. Having made the arduous yet fulfilling "journey" herself, certainly she can be of assistance to those who are interested in undertaking this endeavor.

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News Notes from the—

BOWMAN GRAY SCHOOL OF MEDICINE WAKE FOREST UNIVERSITY

Anesthesiologists at the Bowman Gray School of Medicine are testing a drug that eventually may be used to lower blood pressure in pregnant women during emergency deliveries.

During the last few weeks of pregnancy, about 10% of all women develop preeclampsia, characterized by swelling of the ankles and face, abnormal urine tests and high blood pressure. There is no known cause for the condition. It seems to be more common among women who have poor nutrition and less prenatal care.

In some women, the condition can worsen, causing a life-threatening crisis such as even higher blood pressure which may lead to seizure, stroke or heart failure.

General anesthesia often is needed in an emergency delivery which requires cesarean section. But induction of general anesthesia can result, in some patients, in still higher blood pressure.

Bowman Gray researchers are examining sodium nitroprusside, which they believe may be a more effective means of lowering blood pressure. It is fast acting, taking effect in about half a minute.

The drug is used in other medical specialties to lower blood pressure, but because it breaks down into cyanide, there is concern about possible risk and the danger of cyanide to the fetus.

Two Bowman Gray anesthesiologists are studying pregnant sheep, which have been made hypertensive. Sodium nitroprusside is being used to bring the blood pressure down. Each sheep and its fetus is monitored for blood pressure and blood flow, and blood samples are taken from each. Bowman Gray laboratories measure blood gases and cyanide levels.

Preliminary results have been promising, with no maternal or fetal complications. Blood pressures have been controlled and cyanide concentrations have been below toxic levels.

The researchers warn, however, that because the work is being done with animals, results must be weighed carefully.

* * *

Dr. Augustin G. Formanek, a cardiovascular radiologist, and Dr. Larry D. Young, a psychologist, have been appointed to the Bowman Gray faculty.

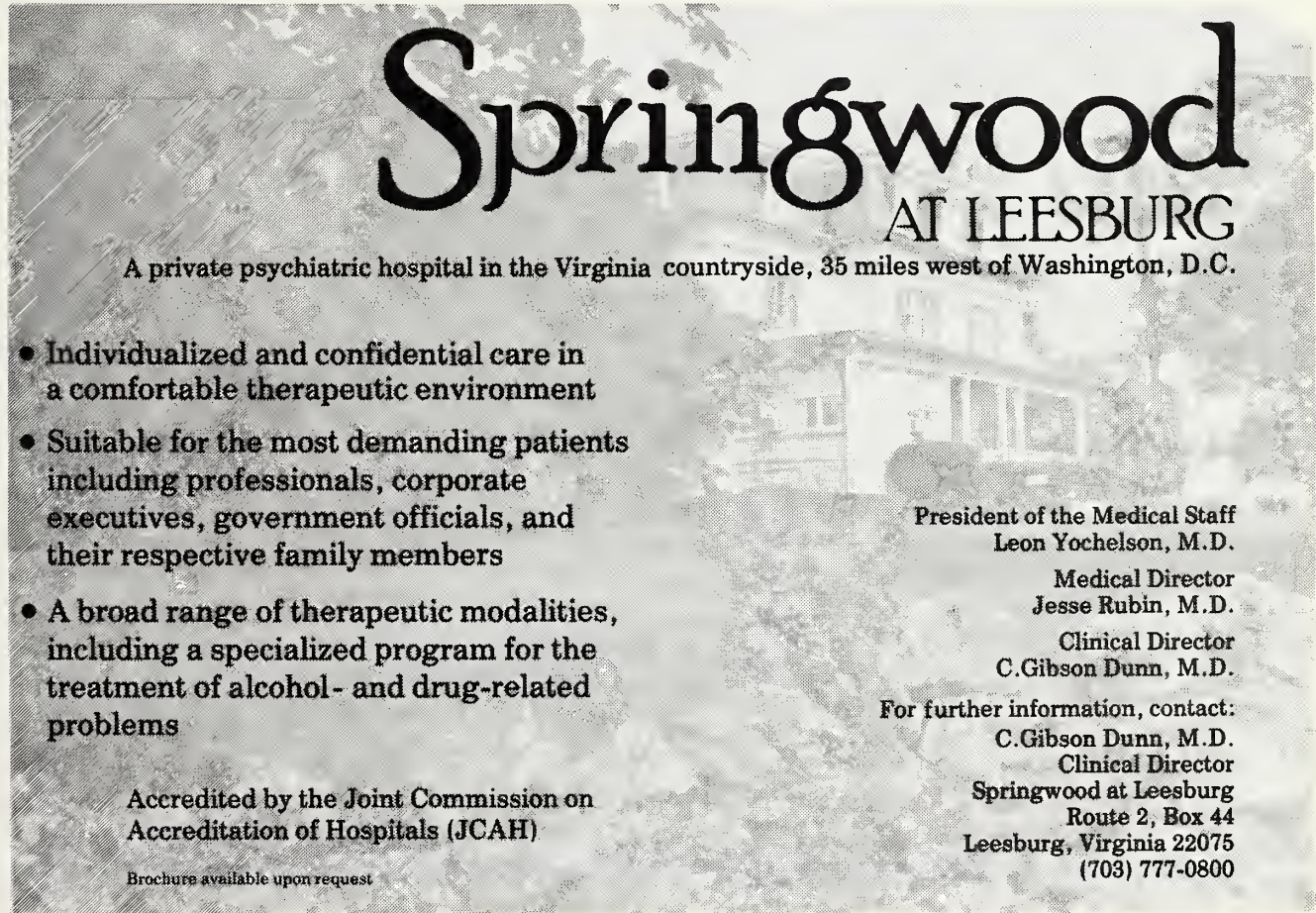
Formanek, who holds the M.D. and C.Sc. degrees from Komensky University in Czechoslovakia, will hold the rank of professor of radiology at Bowman Gray. In Czechoslovakia, he was head of the Cardio-angiographic Laboratory and the Radiology Department of the First Children's Department of Komensky University.

Before coming to Bowman Gray, Formanek was associate professor of radiology at the University of Minnesota. He also has served as a visiting professor at the Mayo Clinic in Rochester, Minn.

Young will be an assistant professor of psychology at Bowman Gray.

He holds the B.A. degree from David Lipscomb College, the M.S. degree from the University of Georgia and the Ph.D. degree in personality and psychology from Harvard University.

Before coming to Bowman Gray, he was assistant professor of psychology at the University of Missis-



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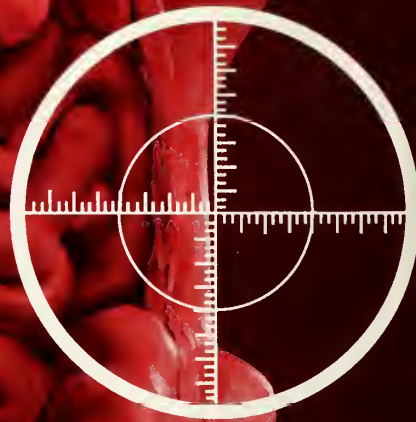
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Leesburg, Virginia 22075
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**When painful spasm
is the presenting
symptom...**

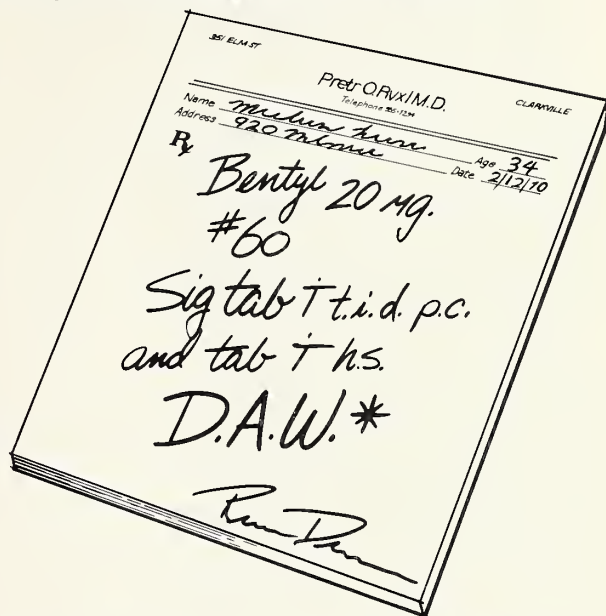


...in the functional bowel/irritable bowel syndrome[†]

be sure to specify

Bentyl[®]
(dicyclomine hydrochloride USP)

10 mg. capsules, 20 mg. tablets,
10 mg./5 ml. syrup, 10 mg./ml. injectable



**D.A.W.-Dispense as written*

because:

Bentyl passes these tests for product integrity.

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- ⊕ Bentyl bioavailability of tablets, capsules, syrup and injectable.
- ⊕ The bioequivalence of the oral dosage forms permits a choice of tablets, capsules, or syrup that satisfies patient's dosage preferences.
- ⊕ Pharmacologic effect in the distal colon compared to placebo^{††} shows how Bentyl affects abnormal motor activity in the irritable colon patient.[†]

[†]This drug has been classified "probably" effective for this indication.

Merrell

^{††} In the experiments that showed significant pharmacologic effect, the dose of Bentyl used was 50 mg. I.M., which is higher than that permitted in the labeling. This dose was deemed justified since the recommended daily dose of injectable Bentyl is 20 mg. (2 ml.) every 4 to 6 hours. Thus, in 8 hours, a patient could receive a total of 60 mg. I.M. and at that time, as a result of the sustained plasma levels from the 20 mg. injections at 0 and 4 hours, might show an even higher plasma level that occurs after a single 50 mg. I.M. dose. Presumably, the same pharmacologic effect would follow. These observations do not constitute evidence of efficacy.

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(dicyclomine hydrochloride USP)

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Brief Summary

INDICATIONS

Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FOA has classified the following indications as "probably" effective:

For the treatment of functional bowel/irritable bowel syndrome (irritable colon, spastic colon, mucous colitis) and acute enterocolitis.

THESE FUNCTIONAL DISORDERS ARE OFTEN RELIEVED BY VARYING COMBINATIONS OF SEDATIVE, REASSURANCE, PHYSICIAN INTEREST, AMELIORATION OF ENVIRONMENTAL FACTORS.

For use in the treatment of infant colic (syrup).

Final classification of the less-than-effective indications requires further investigation.

CONTRAINDICATIONS: Obstructive uropathy (for example, bladder neck obstruction due to prostatic hypertrophy); obstructive disease of the gastrointestinal tract (as in achalasia, pyloroduodenal stenosis); paralytic ileus, intestinal atony of the elderly or debilitated patient; unstable cardiovascular status in acute hemorrhage; severe ulcerative colitis; toxic megacolon complicating ulcerative colitis; myasthenia gravis.

WARNINGS: In the presence of a high environmental temperature, heat prostration can occur with drug use (fever and heat stroke due to decreased sweating). Diarrhea may be an early symptom of incomplete intestinal obstruction, especially in patients with ileostomy or colostomy. In this instance treatment with this drug would be inappropriate and possibly harmful. Bentyl may produce drowsiness or blurred vision. In this event, the patient should be warned not to engage in activities requiring mental alertness such as operating a motor vehicle or other machinery or perform hazardous work while taking this drug. There are rare reports of infants, 6 weeks of age and under, administered dicyclomine hydrochloride syrup, who have evidenced respiratory symptoms (breathing difficulty, shortness of breath, breathlessness, respiratory collapse, apnea), as well as seizures, syncope, asphyxia, pulse rate fluctuations, muscular hypotonia, and coma. The above symptoms have occurred within minutes of ingestion and lasted 20 to 30 minutes. The timing and nature of the reactions suggest that they were a consequence of local irritation and/or aspiration rather than a direct pharmacologic effect. No known deaths or permanent adverse effects have been reported. Bentyl syrup should be used with caution in this age group.

PRECAUTIONS: Although studies have failed to demonstrate adverse effects of dicyclomine hydrochloride in glaucoma or in patients with prostatic hypertrophy, it should be prescribed with caution in patients known to have or suspected of having glaucoma or prostatic hypertrophy.

Use with caution in patients with:

Autonomic neuropathy. Hepatic or renal disease. Ulcerative colitis. Large doses may suppress intestinal motility to the point of producing a paralytic ileus and the use of this drug may precipitate or aggravate the serious complication of toxic megacolon.

Hyperthyroidism, coronary heart disease, congestive heart failure, cardiac arrhythmias, and hypertension.

Hiatal hernia associated with reflux esophagitis since anticholinergic drugs may aggravate this condition.

Do not rely on the use of the drug in the presence of complication of biliary tract disease. Investigate any tachycardia before giving anticholinergic (atropine-like) drugs since they may increase the heart rate. With overdosage, a curare-like action may occur.

ADVERSE REACTIONS: Anticholinergics/antispasmodics produce certain effects which may be physiologic or toxic depending upon the individual patient's response. The physician must delineate these. Adverse reactions may include xerostomia; urinary hesitancy and retention; blurred vision and tachycardia; palpitations; mydriasis; cycloplegia; increased ocular tension; loss of taste; headache; nervousness; drowsiness; weakness; dizziness; insomnia; nausea; vomiting; impotence; suppression of lactation; constipation; bloated feeling; severe allergic reaction or drug idiosyncrasies including anaphylaxis; urticaria and other dermal manifestations; some degree of mental confusion and/or excitement, especially in elderly persons; and decreased sweating. With the injectable form there may be a temporary sensation of light-headedness and occasionally local irritation.

DOSAGE AND ADMINISTRATION: Dosage must be adjusted to individual patient's needs.

Usual Dosage

Bentyl 10 mg. capsule and syrup: *Adults:* 1 or 2 capsules or teaspoonfuls syrup three or four times daily. *Children:* 1 capsule or teaspoonful syrup three or four times daily. *Infants:* ½ teaspoonful syrup three or four times daily. (Oilule with equal volume of water.)

Bentyl 20 mg.: *Adults:* 1 tablet three or four times daily.

Bentyl Injection: *Adults:* 2 ml. (20 mg.) every four to six hours intramuscularly only.

NOT FOR INTRAVENOUS USE.

MANAGEMENT OF OVERDOSE: The signs and symptoms of overdose are headache, nausea, vomiting, blurred vision, dilated pupils, hot, dry skin, dizziness, dryness of the mouth, difficulty in swallowing, CNS stimulation. Treatment should consist of gastric lavage, emetics, and activated charcoal. Barbiturates may be used either orally or intramuscularly for sedation but they should not be used if Bentyl with Phenobarbital has been ingested. If indicated, parenteral cholinergic agents such as Urecholine® (bethanechol chloride USP) should be used.

Product Information as of July, 1980

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sippi. His principal teaching interests include behavioral medicine and behavior therapy.

* * *

A presentation by a Bowman Gray psychologist is included on a new tape which has been produced for psychiatrists.

Dr. Sallie J. Schumacher, associate professor of psychology and marital health, speaks on "Most Impotence is Not Psychogenic" on the first of a series of tapes entitled "Medical Portfolio for Psychiatrists."

The tape is produced by the Cortlandt Group, Inc., which also produces "Medical Portfolio" series for other medical specialties.

Also included on the tape are presentations by William F. Buckley Jr., Henry Kissinger and Sen. Orrin Hatch. The moderator is Frank Blair, newsman of NBC's "Today Show" for 23 years.

Editor Peter Albertson has said that the series is intended to explore not only the clinical aspects of medicine but also to present knowledgeable observers of the halls of Congress, new currents in international affairs and economic theory.

* * *

The Bowman Gray School of Medicine has a new contract to develop a method of rapidly detecting atherosclerosis at an early stage in its development.

Early detection, even as early as childhood, would give doctors the means of monitoring the disease's progress and the opportunity for treating it before it becomes a serious problem.

The three-year contract, for almost \$800,000, is from the National Heart, Lung and Blood Institute (NHLBI).

Researchers on the project said that Bowman Gray received the contract partly because of results obtained under an earlier, related contract from NHLBI. Under that contract the researchers developed ultrasound instruments capable of detecting changes in the artery which ultrasound previously had not been used to uncover.

The Bowman Gray work is focused on examination of the carotid arteries using ultrasound. Already, much has been learned about the artery's elasticity. Much remains to be done in getting an ultrasound image of the artery wall as it thickens during atherosclerosis.

The research, being carried out by the Department of Neurology's unit on biomedical research and development, also involves development of computer technology needed to handle the information contained in the ultrasound beam reflected out of the carotid artery.

The researchers expect to have advanced ultrasound instruments for the early detection of atherosclerosis ready for testing within two years.

News Notes from the—

DUKE UNIVERSITY MEDICAL CENTER

Durham's Ronald McDonald House, which provides shelter and support services for families with children being treated at Duke University Medical Center, celebrated its first year of operation on Feb. 1. More than 6,640 persons from throughout North Carolina, 10 other states and three foreign nations stayed at the house in the first 11 months. The Ronald McDonald House is operated by the non-profit Pediatric-Family Center of North Carolina.

* * *

On Jan. 23, three volunteers stepped into an eight-foot hyperbaric (high pressure) chamber and began what was planned as a record-breaking simulated dive to 650 meters. The chamber was in the F. G. Hall Laboratory for Environmental Sciences at the Duke University Medical Center. Last March, F. G. Hall divers reached 650 meters, breathing a mixture of helium, nitrogen and oxygen and suffering no ill effects. The new dive projected a four-day stay on the "bottom" to thoroughly test the capability of human beings to work for sustained periods underwater with no incapacitating effects.

* * *

Research to Prevent Blindness (RPB) recently raised its total funding of the Eye Center at Duke University Medical Center to \$85,000 by making an unrestricted grant of \$10,000. Duke is among more than 50 medical institutions receiving annual grants from RPB, which has provided more than \$37 million for eye research.

* * *

A \$1.3 million grant for an epidemiological study of mental illness has been made by the National Institute of Mental Health to a research team at the Duke University Medical Center. Duke and four other schools will be interviewing a total of 17,500 persons to determine, among other things, how many persons are suffering from mental illness, what sorts of mental problems people are having, the rate at which persons are incurring mental illness, and patterns of use of mental health facilities.

Dr. Dan Blazer, one of the co-principal investigators for Duke, said, "We're unique among the five institutions in that we are the only ones surveying people in the southeast. And we also have the largest rural component."

Blazer is associate professor of psychiatry and head-designate of social and community psychiatry. His co-principal investigator is Linda George, associate professor of psychiatry and adjunct associate professor of sociology.

The survey will make use of the new Diagnostic and

Statistical Manual III (DSM III), which Blazer and George believe will produce more precise diagnoses than before. The Duke survey will be administered by the Research Triangle Institute on contract.

Dr. H. Keith H. Brodie, professor and chairman of the Department of Psychiatry, is also an investigator with the project.

Other schools involved are Yale, Washington University, Johns Hopkins and UCLA.

* * *

The \$100,278 from the 1980 Duke Children's Classic Golf Tournament is being put to work on the research of Dr. Charles Roe and his staff, who are researching the more than 2,000 inheritable diseases which can affect children. Roe is chief of the pediatric metabolism division at the Duke University Medical Center.

* * *

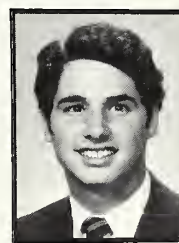
In January, Dr. Salvatore V. Pizzo of the Duke University Medical Center announced research indicating that a chemical defect may determine which women are most likely to develop blood clots while taking birth control pills. But, Pizzo told an American Heart Association seminar in Tucson, Ariz., even moderate exercise seems to make a dramatic improvement in the chemical deficiency, thus theoretically reducing the risk of clotting.

Pizzo is associate professor in the Department of Pathology and assistant professor in the Department of Biochemistry at the medical center.

His research team suspects that some women taking



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birth control pills are predisposed to clotting because of a protein called plasminogen activator which triggers the chemical breakdown of clots on blood vessel walls. Pizzo said that 90% of the subjects tested — 20 women who had developed clots while taking the pill — showed significantly decreased levels of the activator after having been off the drug for at least a year.

Pizzo suggested that about one percent of pill users would have such low levels of plasminogen activator that disuse of the pill is indicated. He estimated that 200 to 300 women die annually from complications of taking the pill.

* * *

The 19th National Conference on Breast Cancer, held March 8-13 in San Diego, Calif., included two Duke University Medical Center physicians.

Dr. Robert McLelland, associate professor in radiology, was program chairman and Dr. Nicholas Georgiade, chief of oral surgery, served as a panelist in a discussion of systemic breast cancer.

* * *

Dr. Andrew G. Wallace has been named associate vice president for health affairs of Duke University

Medical Center. He succeeds Dr. Roscoe R. (Ike) Robinson, who will become vice president for medical affairs at Vanderbilt University July 1.

Wallace is professor and chief of the division of cardiology in the Department of Medicine at Duke. He received his M.D. degree from Duke University School of Medicine in 1959.

Wallace is a founder of the Duke University Preventive Approach to Cardiology Program (DUPAC) which will be housed in a sports-medicine facility now being built on the Duke campus. He was also instrumental in developing Duke's innovative "Computerized Textbook of Medicine," which uses computers to extend and enhance the clinical experience and knowledge of practicing physicians.

* * *

Dr. Harry T. Gallis has been chosen head of the continuing medical education program at Duke University School of Medicine. Gallis is assistant professor in the division of infectious disease in the Department of Medicine and assistant professor in the Department of Microbiology and Immunology. He succeeds Dr. A. Henderson Rourk.

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News Notes from the

**UNIVERSITY OF NORTH CAROLINA-
CHAPEL HILL SCHOOL OF MEDICINE
AND
NORTH CAROLINA MEMORIAL HOSPITAL**

Rural people have psychological problems just like city residents, but they have fewer opportunities to obtain adequate care.

Helping those rural residents with milder emotional and relationship problems is the object of a study being undertaken by the School of Medicine's Department of Psychiatry.

The study will look at benefits of clinical education programs, emotional support groups and other treatments as alternatives to traditional psychotherapy.

Dr. William G. Hollister, professor in the division of community and social psychiatry, will direct the study which is being funded by a three-year \$730,000 grant from the National Institute of Mental Health. Work will be done in Chatham, Moore and Richmond counties.

Dr. Francis Miller, associate professor of psychiatry; Dr. J. Wil Edgerton, professor of psychiatry; and Becky Hunter, research associate, will be project evaluators.

Hollister said several problems have contributed to the lack of mental health care in rural areas including isolation, cost and high social visibility. He explained that for many people alternative treatment methods are more acceptable.

"We see people whose lives are barren, and the constant burden of being unloved and unwanted makes them anxious and depressed. In many cases they just need friendship and companionship, the kind of help they can get from a support group," Hollister said.

* * *

Dr. Enaam Y. Abou-Youssef has been named deputy director of the Program for International Training in Health in the School of Medicine.

She also was appointed visiting professor in the School of Nursing.

Abou-Youssef had been acting deputy director of the INTRAH program since 1979 and was field director of its predecessor, the African Health Training Institutions Project, from 1976-79. Since 1977 she also

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has been clinical associate professor of public health nursing.

A native of Alexandria, Egypt, Abou-Youssef is a former lecturer, associate professor and director of the Institute of Nursing at the University of Alexandria. She has been a consultant to the World Health Organization and an external examiner for nursing schools in Sudan and Kenya.

Abou-Youssef graduated from the University of Alexandria with a B.S. in 1960. She earned her M.S. in 1963 from the University of California at Los Angeles and her Ph.D. in 1967 from Columbia University Teacher's College, N.Y.

* * *

Dr. Albert M. Collier and Dr. Louis E. Underwood, Department of Pediatrics, have been appointed to full professor in the School of Medicine effective Jan. 1.

Collier, who was born in Elba, Ala., came to the University of North Carolina at Chapel Hill in 1968 as a postdoctoral fellow. He became assistant professor of pediatrics in 1970.

He is the assistant director of health programs and heads health research at Frank Porter Graham Child Development Center. He also is associate director of the Center for Environmental Health and Medical Sciences.

His research deals with infectious disease such as pneumonia and middle ear infections in children. At the environmental health center, he is researching the effects of pollution on people.

Collier earned his B.S. and his M.D. from the University of Miami School of Medicine at Coral Gables, Fla. He is a member of the Infectious Disease Society of America and is a diplomate of the American Board of Pediatrics.

Underwood, a Frankfort, Ky., native, joined the UNC-CH faculty in 1970, after having been a pediatric resident at North Carolina Memorial Hospital and fellow in pediatric endocrinology at the School of Medicine earlier. He also has held positions with Vanderbilt University Hospital and the U.S. Naval Hospital in Chelsea, Mass.

His research interests include the hormonal factors controlling growth, particularly somatomedin, a factor in blood plasma that actually causes growth. In 1974 he received the Jefferson-Pilot Fellowship in Academic Medicine for this research.

Underwood earned his A.B. from the University of Kentucky and his M.D. from Vanderbilt University. He is a diplomate of the American Board of Pediatrics and is active in the medical advisory board of the National Pituitary Agency, the American Board of Pediatrics, the Lawson Wilkins Pediatric Endocrine

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A three-year research grant totaling \$125,226 has
been awarded to Dr. Arthur J. Prange Jr., professor of
psychiatry and neurobiology and a member of the
Biological Sciences Research Center of the Child De-
velopment Institute.

The grant, from the National Institute of Mental
Health, will fund studies of the properties of neuroten-
sin, an edogenous neuropeptide.

Other researchers involved in the project are: Dr.
John S. Kizer, assistant professor of pharmacology
and medicine; Dr. Daniel Luttinger, postdoctoral re-
search fellow; and Charles B. Nemeroff, Susan K.
Burgess and Peter T. Kalivas, fellow trainees.

* * *

Dr. James F. Newsome, professor of surgery, and
Dr. Colin G. Thomas Jr., chairman and professor of
surgery, presented papers at the Southern Surgical
Association meeting Dec. 8-10 in Palm Beach, Fla.

* * *

Dr. Eugene S. Mayer, associate dean and director
of the Area Health Education Centers program, and
Thomas J. Bacon, AHEC associate director for evalu-

ation, attended the Southern Regional Education
Conference Dec. 15-16 in Atlanta.

* * *

Dr. David Kaufman, professor of pathology and
biochemistry, gave talks Nov. 5-6 at Temple Univer-
sity in Philadelphia.

* * *

Dr. Robert L. Capizzi, professor and chief, division
of medical oncology, was a visiting professor Nov.
14-15 at Walter Reed Army Medical Center in Wash-
ington, D.C. Capizzi also participated in a site visit
Dec. 2-3 at the Sidney Farber Cancer Center in Bos-
ton.

* * *

Dr. George Johnson Jr., professor and chief, divi-
sion of vascular surgery, presented a talk on "The
Sugiura Procedure for Portal Hypertension and
Bleeding Esophageal Varices," and moderated a
panel on portal hypertension Dec. 4-6 at the Sym-
posium on Operative Techniques in Vascular Surgery
in Chicago.

Johnson was a visiting professor Dec. 11-12 at the
Uniformed Services University of Health Sciences in
Bethesda, Md. He presented a talk on "Oblative
Operations/Bleeding Esophageal Varices."



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James F. Emmert, Executive Director
Rex R. Taggart, M.D., Medical Director

Dr. Cecil G. Sheps, professor of community medicine and hospital administration, was named ad hoc advisor to the 1981 White House Conference on Aging.

* * *

W. Jackson Pledger, assistant professor of pharmacology, gave a talk on "The Control of Cell Proliferation" at the Cancer Research Center of the University of Texas Medical Center in Galveston Dec. 16.

Dr. Jeffry J. Andresen, assistant professor of psychiatry, was awarded the Journal of American Psychoanalytic Association Clinical Contribution Prize at the scientific meeting of the American Psychoanalytic Association Dec. 17-21 in New York City. The annual award is granted to one scientific paper from among those submitted each year to the journal. The paper titled, "Why People Talk to Themselves," was published in the Journal of American Psychoanalytic Association, Vol. 28, 1980.

In Memoriam

ALAN DAVIDSON, M.D.

Alan Davidson was born in St. Albans, Vt., on August 10, 1917, the son of Helen A. Davidson and Dr. Alan Davidson. He graduated from Dartmouth College in 1939 and after teaching high school for one year he entered the medical school of the University of Vermont and graduated first in his class in December 1943. He took postgraduate training in ophthalmology and otolaryngology at Duke University Medical Center from 1944 to 1946 and served in the U.S. Army Medical Corps from 1946 to 1948 as chief of the Eye, Ear, Nose and Throat Service of the 49th General Hospital in Tokyo. Following military service he did additional postgraduate training in ophthalmology at the Massachusetts Eye and Ear Infirmary in Boston.

Dr. Davidson started to practice ophthalmology and otolaryngology in New Bern in February 1949. He became certified by the American Board of Ophthalmology in 1950 and by the American Board of Otolaryngology in 1951. He was elected a Fellow of the American College of Surgeons in 1952. He was

past-president of the Craven County Medical Society and former chief of staff at St. Luke's Hospital (1954-1958) and of Craven County Hospital (1970). He was a member of the N.C. Medical Society, the American Medical Association, the American Academy of Ophthalmology and Otolaryngology and the North Carolina Ophthalmology and Otolaryngology Society. He was chairman of the E.E.N.T. Section of the state medical society from 1954 to 1958 and president of the North Carolina E.E.N.T. Society in 1960. He was a member of St. Paul's Catholic Church in New Bern.

He is survived by his wife, the former Anne Robinson Austin; a daughter, Anne A. Davidson of Spokane, Wash.; four sons, Alan Davidson III, M.D., of Longmeadow, Mass., Andrew Davidson, M.D., of New Bern, James P. Davidson of Greenville, N.C., and Robert S. Davidson of Raleigh; seven grandchildren; and one sister, Dorothy Davidson Kenyon of Burlington, Vt.

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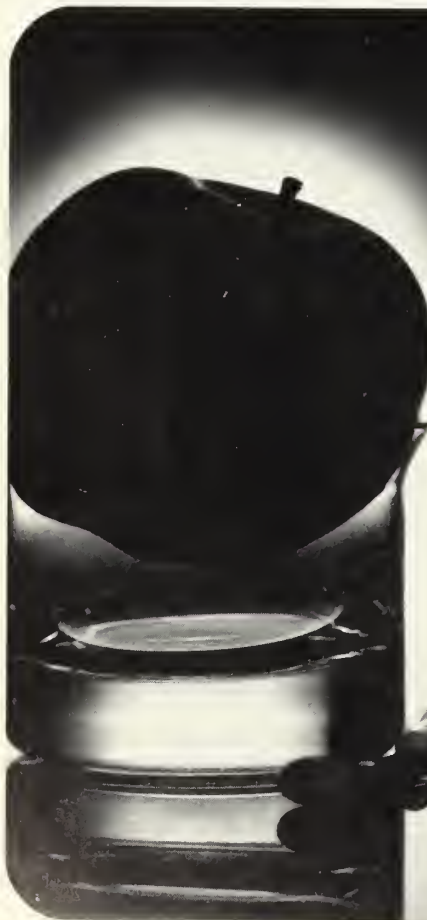
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|---|--------------------|--|---|
| Air Force | 289 | Ortega Pharmaceutical Company | 297 |
| Boots Pharmaceuticals, Inc. | 245, 246, 247, 248 | Plyler Financial Services | 295 |
| Bristol Laboratories | 240, 241 | Provident Mutual Insurance Company | 285 |
| Bristol-Myers Professional Products | 226, 227 | Purepac Pharmaceutical Company | 237 |
| Burroughs Wellcome Company | 236 | Ramada Inn Downtown | 230 |
| Charlotte Chest Laboratory | 290 | Roche Laboratories | Cover 2, 223, 224, 251, Cover 3, Cover 4 |
| Charlotte Treatment Center | 299 | Sequoia Group, Inc. | 235 |
| Children's Home Society of N.C. | 296 | Smith, Kline & French | 231 |
| Crumpton, J. L. & J. Slade, Inc. | 239 | Springwood at Leesburg Hospital | 291 |
| Golden-Brabham Insurance Agency | 282 | Upjohn Company | 232, 233, 234 |
| Holly Hill Hospital | 298 | Upjohn Healthcare Services | 252 |
| Lilly, Eli & Company | 243 | Willingway, Inc. | 302 |
| Mandala Center | 228 | Winchester Surgical Supply Company, | |
| Medical Liability Mutual Insurance Company .. | 242 | Winchester-Rich Surgical Company | 225 |
| Merrell National | 292, 293, 294 | Wyeth Laboratories | 286, 287 |
| Mutual of Omaha | 229 | | |



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The Official Journal of the NORTH CAROLINA MEDICAL SOCIETY □ □ □ May 1981, Vol. 42, No. 5

Original Article

- Diagnosis and Management of
Pyeloureteral Necrosis Following
Renal Transplantation** 327
James Mandell, M.D.,
Peter S. Stevens, M.D., and
Stanley R. Mandel, M.D.

Special Articles

- The Soul in Left-Handers:
A Neurologic Site Visit** 331
Edward V. Spudis, M.D.
- Joint Patient Care: Which
Physician(s) Should Be Paid —
And For What?** 335
Phillip A. Sellers, M.D.

Mini-Features

- Toxic Encounters of the Dangerous
Kind — Hydrocarbon Ingestion** . 338
Ronald B. Mack, M.D.
- North Carolina Medical Curiosities** 343
E. Wayne Massey, M.D.

Editorials

- About Women and Women in
Medicine** 344
- Where is the Horn of the Unicorn?** 344

Practice Management

- Tips on Submitting Health Insurance
Claims** 347

Correspondence

- Ambulatory Surgery** 349
Alfred J. Cantor, M.D.

Bulletin Board

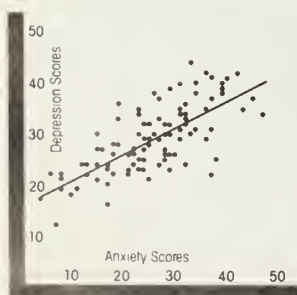
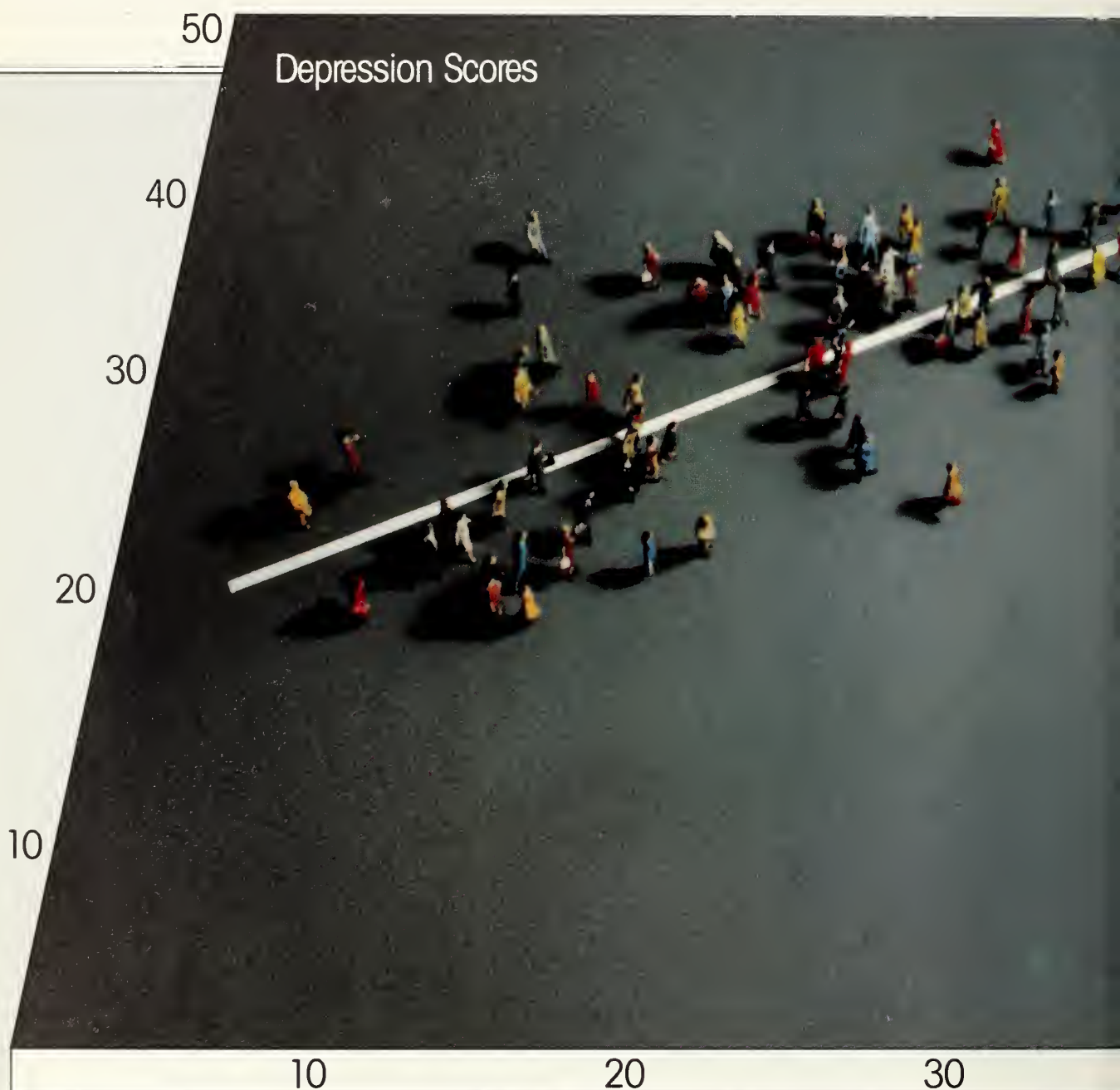
- What? When? Where?** 350
- Auxiliary to the North Carolina
Medical Society** 350
- News Notes from the University of
North Carolina-Chapel Hill
School of Medicine and North
Carolina Memorial Hospital** 352
- News Notes from the East Carolina
University School of Medicine** .. 359
- News Notes from the Bowman Gray
School of Medicine of Wake
Forest University** 360
- News Notes from the Duke
University Medical Center** 364
- View From Raleigh** 370
- Classified Ads** 373
- Index to Advertisers** 374

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FOR THE 7 OF 10 NONPSYCHOTIC



Clear correlation between anxiety and depression³

The above graph illustrates a relationship between anxiety and depression, indicating that patients seldom present with anxiety or depression alone; more often they have both in varying degrees. Data based on a sampling of 100 outpatients (64 male, 36 female) seen at a general psychiatric clinic.

³Adapted from Claghorn, J. The anxiety-depression syndrome. *Psychosomatics* 11:438-441, Sept-Oct 1970.

DEPRESSED PATIENTS WHO ARE ALSO ANXIOUS^{1,2}

Most depressed patients are also anxious...

Some authors estimate that 70% of all nonpsychotic patients with symptoms of depression have concomitant symptoms of anxiety.^{1,2} One author found a distinct correlation between anxiety and depression scores in 100 nonpsychotic outpatients administered the Minnesota Multiphasic Personality Inventory in a general psychiatric clinic.³ As depression scores increased, so did anxiety scores. No attempt was made to select patients other than to exclude psychotics.

but not psychotic

The logic of treating both components of anxious depression is clear. Antipsychotics, like the phenothiazines, however, carry a well-documented risk of tardive dyskinesia.⁴ Because of this, an APA Task Force recently recommended the judicious use of phenothiazines in cases other than chronic psychosis or the use of alternative treatments.

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References: 1. Rickels K: Drug treatment of anxiety, in *Psychopharmacology in the Practice of Medicine*, ed. Jarvik ME. New York, Appleton-Century-Crofts, 1977, p. 316. 2. Schatzberg AF, Cole JO: Benzodiazepines in depressive disorders. *Arch Gen Psychiatry* 35:1359-1365, 1978. 3. Claghorn J: The anxiety-depression syndrome. *Psychosomatics* 11:438-441, 1970. 4. The Task Force on Late Neurological Effects of Antipsychotic Drugs: Tardive dyskinesia, summary of a task force report of the American Psychiatric Association. *Am J Psychiatry* 137:1163-1172, 1980. 5. Feighner JP *et al*: A placebo-controlled multicenter trial of Limbitrol versus its components (amitriptyline and chlordiazepoxide) in the symptomatic treatment of depressive illness. *Psychopharmacology* 61:217-225, 1979.

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Anxiety Scores

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o summary of which follows:

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Contraindications: Known hypersensitivity to benzodiazepines or tricyclic antidepressants. Do not use with monoamine oxidase (MAO) inhibitors or within 14 days following discontinuation of MAO inhibitors since hyperpyretic crises, severe convulsions and deaths have occurred with concomitant use, then initiate cautiously, gradually increasing dosage until optimal response is achieved. Contraindicated during acute recovery phase following myocardial infarction.

Warnings: Use with great care in patients with history of urinary retention or angle-closure glaucoma. Severe constipation may occur in patients taking tricyclic antidepressants and anticholinergic-type drugs. Closely supervise cardiovascular patients. (Arrhythmias, sinus tachycardia and prolongation of conduction time reported with use of tricyclic antidepressants, especially high doses.) Myocardial infarction and stroke reported with use of this class of drugs.) Caution patients about possible combined effects with alcohol and other CNS depressants and against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving).

Usage in Pregnancy: Use of minor tranquilizers during the first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies.

Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.

Since physical and psychological dependence to chlordiazepoxide have been reported rarely, use caution in administering Limbitrol to addiction-prone individuals or those who might increase dosage, withdrawal symptoms following discontinuation of either component alone have been reported (nausea, headache and malaise for amitriptyline, symptoms [including convulsions] similar to those of barbiturate withdrawal for chlordiazepoxide).

Precautions: Use with caution in patients with a history of seizures, in hyperthyroid patients or those on thyroid medication, and in patients with impaired renal or hepatic function. Because of the possibility of suicide in depressed patients, do not permit easy access to large quantities in these patients. Periodic liver function tests and blood counts are recommended during prolonged treatment. Amitriptyline component may block action of guanethidine or similar antihypertensives. Concomitant use with other psychotropic drugs has not been evaluated. Sedative effects may be additive. Discontinue several days before surgery. Limit concomitant administration of ECT to essential treatment. See Warnings for precautions about pregnancy. Limbitrol should not be taken during the nursing period. Not recommended in children under 12.

In the elderly and debilitated, limit to smallest effective dosage to preclude ataxia, oversedation, confusion or anticholinergic effects.

Adverse Reactions: Most frequently reported are those associated with either component alone: drowsiness, dry mouth, constipation, blurred vision, dizziness and bloating. Less frequently occurring reactions include vivid dreams, impotence, tremor, confusion and nasal congestion. Many depressive symptoms including anorexia, fatigue, weakness, restlessness and lethargy have been reported as side effects of both Limbitrol and amitriptyline. Granulocytopenia, jaundice and hepatic dysfunction have been observed rarely.

The following list includes adverse reactions not reported with Limbitrol but requiring consideration because they have been reported with one or both components or closely related drugs.

Cardiovascular: Hypotension, hypertension, tachycardia, palpitations, myocardial infarction, arrhythmias, heart block, stroke.

Psychiatric: Euphoria, apprehension, poor concentration, delusions, hallucinations, hypomania and increased or decreased libido.

Neurologic: Incoordination, ataxia, numbness, tingling and paresthesias of the extremities, extrapyramidal symptoms, syncope, changes in EEG patterns.

Anticholinergic: Disturbance of accommodation, paralytic ileus, urinary retention, dilatation of urinary tract.

Allergic: Skin rash, urticaria, photosensitization, edema at face and tongue, pruritus.

Hematologic: Bone marrow depression including agranulocytosis, eosinophilia, purpura, thrombocytopenia.

Gastrointestinal: Nausea, epigastric distress, vomiting, anorexia, stomatitis, peculiar taste, diarrhea, black tongue.

Endocrine: Testicular swelling and gynecomastia in the male, breast enlargement, galactorrhea and minor menstrual irregularities in the female and elevation and lowering of blood sugar levels.

Other: Headache, weight gain or loss, increased perspiration, urinary frequency, mydriasis, jaundice, alopecia, parotid swelling.

Overdose: Immediately hospitalize patient suspected of having taken an overdose. Treatment is symptomatic and supportive. I.V. administration of 1 to 3 mg physostigmine salicylate has been reported to reverse the symptoms of amitriptyline poisoning. See complete product information for manifestation and treatment.

Dosage: Individualize according to symptom severity and patient response. Reduce to smallest effective dosage when satisfactory response is obtained. Larger portion of daily dose may be taken at bedtime. Single h.s. dose may suffice for some patients. Lower dosages are recommended for the elderly. Limbitrol 10-25, initial dosage of three to four tablets daily in divided doses, increased to six tablets or decreased to two tablets daily as required. Limbitrol 5-12.5, initial dosage of three to four tablets daily in divided doses, for patients who do not tolerate higher doses.

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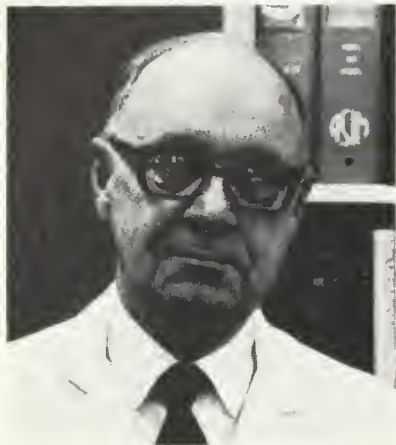
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*PATIENT CARE Magazine—Outlook 1977 "Face-Off: Cost Containment vs. Chaos," January 1, 1977

Lyle CB, et al. "Practice habits in a group of eight internists," ANNALS OF INTERNAL MEDICINE 84 (May 1976), 594-601.

Schroeder SA, et al. "Use of laboratory tests and pharmaceuticals: variation among physicians and effect of cost audit on subsequent use," JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION 225 (Aug. 20, 1973), 969-73.



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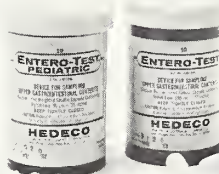
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Precautions PREGNANCY: VERMOX has shown embryotoxic and teratogenic activity in pregnant rats at single oral doses as low as 10 mg/kg. Since VERMOX may have a risk of producing fetal damage if administered during pregnancy, it is contraindicated in pregnant women.

PEDIATRIC USE: The drug has not been extensively studied in children under two years; therefore, in the treatment of children under two years the relative benefit/risk should be considered.

Adverse Reactions Transient symptoms of abdominal pain and diarrhea have occurred in cases of massive infection and expulsion of worms.

Dosage and Administration The VERMOX tablet may be chewed, swallowed or crushed and mixed with food. For control of pinworm (enterobiasis) a single tablet is administered orally, one time. If patient is not cured three weeks after treatment, a second course of treatment is advised.

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because so much remains to be done*

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^{††} Because VERMOX has not been extensively studied in children under two years of age, the relative benefit/risk should be considered before treating these children. VERMOX is contraindicated in pregnant women (see: Pregnancy Precautions) and in persons who have shown hypersensitivity to the drug.

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3637 Old Vineyard Road
Winston-Salem, N.C. 27104
(919) 768-7710

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Roger L. McCauley, M.D.
Larry T. Burch, M.D.
Edward H. Weaver, M.D.
Robert W. Gibson, M.D.
James Mattox, M.D.
Ali Jarrahi, M.D.
Selwyn Rose, M.D.
Glenn N. Burgess, M.D.

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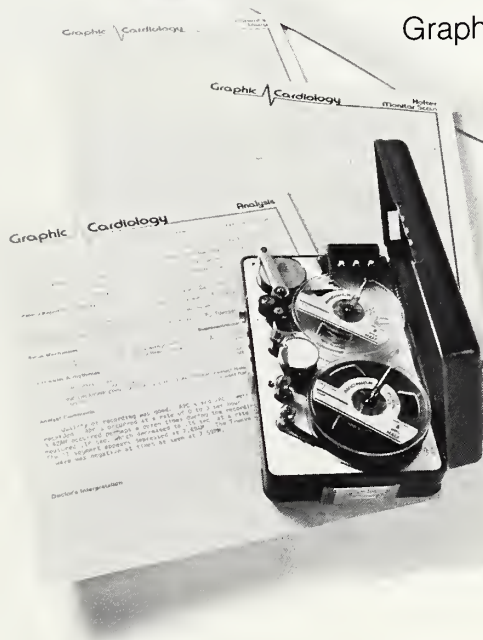
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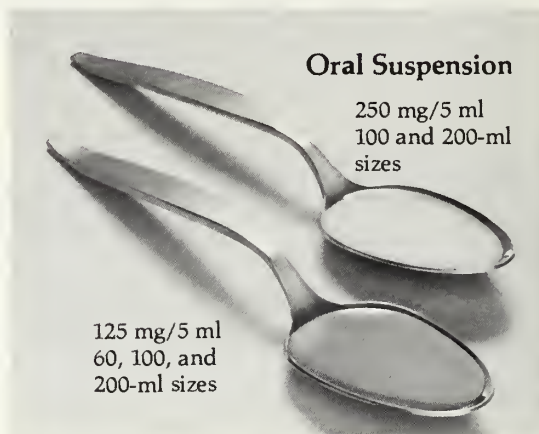
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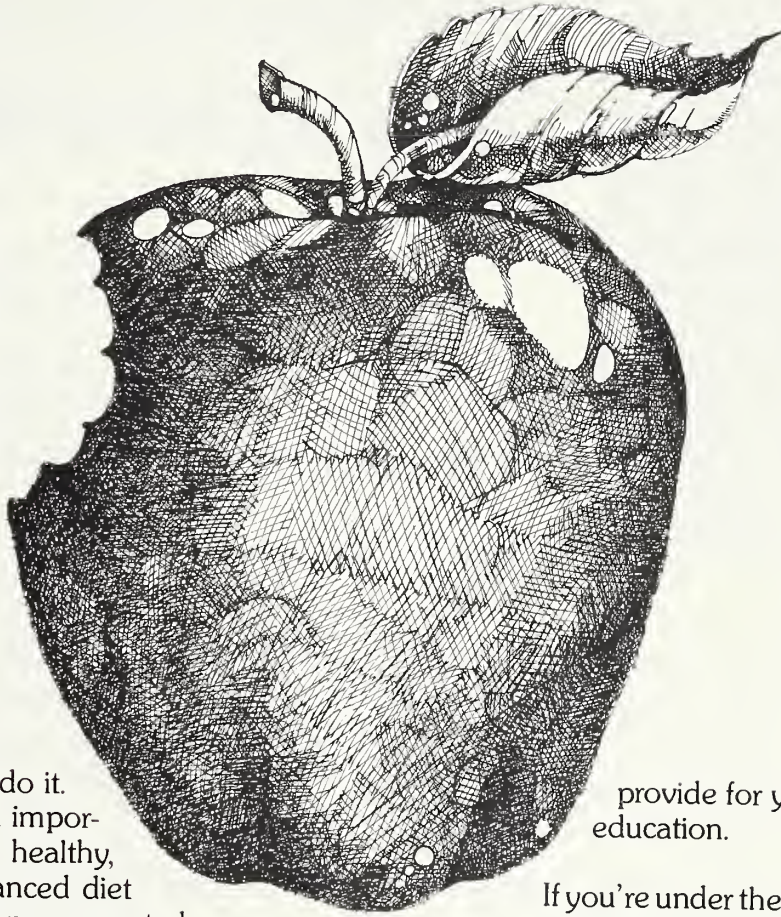
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The following is a list of the major Army Community Hospitals, in the Southeast, which have vacancies:

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Fort Benning, Columbus, GA

Fort Rucker, Dothan, AL

Fort Stewart, Savannah, GA

Fort Jackson, Columbia, SC

Redstone Arsenal, Huntsville, AL

Fort Bragg, Fayetteville, NC

Vacancies may vary as physicians arrive and depart but will exist in nearly every speciality at one medical facility or another. To obtain more information and vacancies by speciality please contact the Army Medical Department Personnel Counselor listed below. Be our guest at one of the above medical facilities or any other Army Medical facility.

WRITE OR CALL COLLECT:

CPT Edward Miller, MSC
Dwight D. Eisenhower Army Med. Center
Fort Gordon, GA 30905
(404) 790-6939

ARMY MEDICINE, BE ALL YOU CAN BE.



PRESIDENT'S NEWSLETTER

NORTH CAROLINA MEDICAL SOCIETY

NO. 12

MAY 1981

Greetings:

This is my last monthly newsletter as your President. The year has passed all too fast! It was my pleasure to install our new President, Dr. Josephine Newell, Saturday night, May 9th, in Pinehurst at the close of the 127th Annual Meeting of the Society.

Dr. Marshall Redding of Elizabeth City was chosen by the House of Delegates as President-Elect to succeed Dr. Newell in 1982.

Elected by the House of Delegates at the First Session on Thursday, May 7th, to serve with Dr. Newell this year and also installed on Saturday were: Dr. John Foust, Charlotte, First Vice-President, and Dr. Emery Miller, Winston-Salem, Second Vice-President. Dr. Henry Carr, Clinton, Speaker of the House of Delegates, and Dr. Reginald Harris, Shelby, Vice-Speaker, were re-elected and installed.

Others elected by the House are as follows:

COUNCILORS (3-year term)

Fifth District - Dr. Bruce B. Blackmon, Buies Creek (re-elected)
Seventh District - Dr. James B. Greenwood, Charlotte
Tenth District - Dr. Charles T. McCullough, Jr., Asheville (re-elected)
First District - Dr. Robert E. Lane, Edenton (Elected to fill unexpired term)

VICE-COUNCILORS (3-year term)

Fifth District - Dr. Giles L. Cloninger, Jr., Hamlet (re-elected)
Seventh District - Dr. Thomas L. Dulin, Charlotte
Tenth District - Dr. George W. Brown, Hazelwood
First District - Dr. James M. Watson, Elizabeth City (Elected to fill unexpired term)

Dr. Louis Shaffner, Winston-Salem was re-elected for a two-year term as an AMA Delegate and Dr. Jesse Caldwell, Jr., Gastonia, was elected an AMA Delegate for a two-year term beginning January 1982. Dr. D. E. Ward, Jr., Lumberton was re-elected an AMA Alternate Delegate and two new AMA Alternate Delegates were elected Dr. Thomas Dameron, Raleigh, and Dr. Josephine Newell, Raleigh.

On the Commission of Health Services for a four-year term, Dr. Jesse H. Meredith, Winston-Salem, and Dr. Earl Trevathan, Greenville, were re-elected. Dr. David T. Tayloe of Washington was re-elected to a four-year term on the North Carolina Medical Care Commission. Dr. Jack Hughes, the Constitutional Secretary of the Society, was elected to the Editorial Board of the North Carolina Medical Journal, to fill the unexpired term of Dr. John S. Rhodes, who had resigned.

Some of the actions taken by the House of Delegates are as follows: (1) Official minutes of the Council will not be verbatim but contain a summary of information, proposed motions and action(s) taken; (2) The budget was approved with \$60,000 transferred to the General Fund from the Operating Reserve. The Operating Reserve will be frozen at \$800,000. Future interest earned by the Operating Reserve will be used in the General Fund; (3) A Section on Allergy and Clinical Immunology was approved; (4) Continuation of the Legislative Doctor of the Day Program was approved; (5) Continuing Medical Education requirement for membership was reaffirmed; (6) Adopted as policy the support of health planning and peer review on a Local Community Voluntary Basis; (7) To work with the AMA for repeal of the National Health Planning Act (P.L. 93-641)(HSA's); (8) Continued support of PSRO; (9) Supported development of specific standards for psychiatric and medical practice in public community mental health programs; (10) Endorsed the unified system of admission to the public mental health system; (11) Encouraged formation of joint practice committees of physicians and nurses in local hospitals for better cooperation; (12) Directed the Council to study Medicare and Medicaid reimbursement with reference to the 1975 Wayne County Resolution; (13) Requested that Congressional Representatives, as well as AMA Delegates, through the AMA, introduce legislation to clarify professional and business use expense of automobiles; (14) Oppose legislation that would allow pharmacists to prescribe; (15) Supported introduction of legislation to provide physician immunity for hospital physicians and their duties on various staff functions; (16) Expressed opposition to legislation proposed for rate setting in hospitals; (17) Supported the present policy of providing state funding for abortions for the poor and indigent; (18) Supported legislation to protect the confidentiality and non-discoverability of records and proceedings of hospital medical staffs; (19) Opposed legislation that would dictate to physicians the management of pregnant minors; (20) Recommended seeking representation on the Governor's Waste Management Board and urged development of hazardous and low level radioactive waste management plan; (21) Reaffirmed a recommendation that all local medical societies form liaison committees to work with local health departments. Other actions will be published in the Bulletin and a complete resume will appear in the Annual Transactions.

I want to take this opportunity to express my sincere appreciation to those many, many physicians who were so helpful and supportive this year. I wish for Dr. Newell and our officers the same excellent support as well as wishing for them a most successful and pleasant year. I want to express a particular THANK YOU to Past President Ben Warren, who served as Master of Ceremonies at the President's Dinner Saturday night in Pinehurst. I survived his "This is Your Life" with great enjoyment and deep appreciation to all concerned.

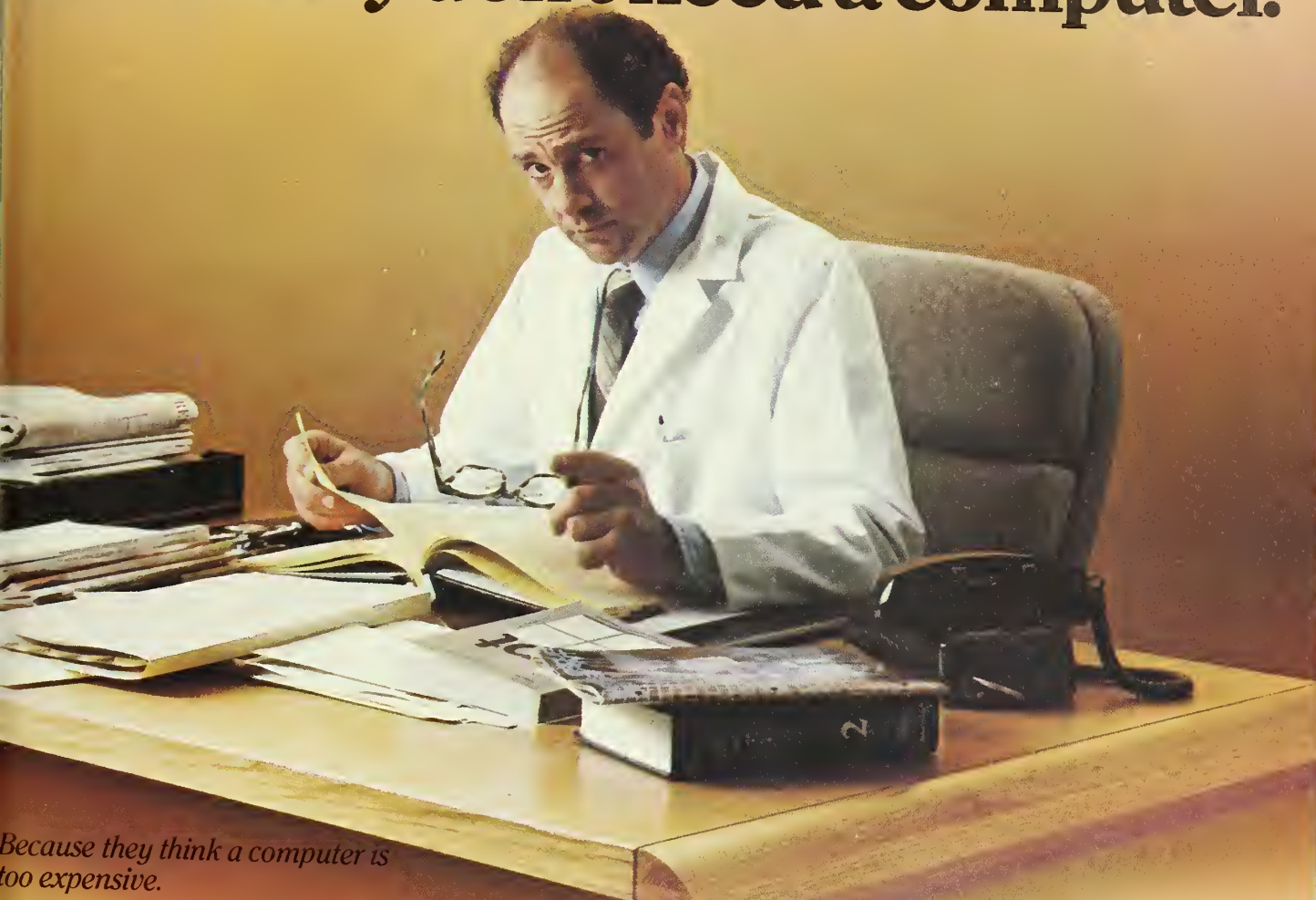
I hope all of you will have a fine summer and it's with every good wish to you as I finish my term as your President. I am most

Sincerely,



Frank Sommer, M.D.
President

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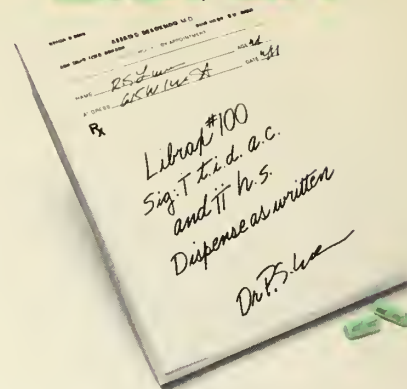
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Specify

Librax®



Each capsule contains 5 mg chlordiazepoxide HCl and 2.5 mg cildinium Br.

Please consult complete prescribing information, a summary of which follows:

Indications: Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the indications as follows
"Possibly" effective as adjunctive therapy in the treatment of peptic ulcer and in the treatment of the irritable bowel syndrome (irritable colon, spastic colon, mucous colitis) and acute enterocolitis
Final classification of the less-than-effective indications requires further investigation

Contraindications: Glaucoma, prostatic hypertrophy, benign bladder neck obstruction, hypersensitivity to chlordiazepoxide HCl and/or cildinium bromide

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants, and against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Physical and psychological dependence rarely reported on recommended doses, but use caution in administering Librium[®] (chlordiazepoxide HCl/Roche) to known addiction-prone individuals or those who might increase dosage, withdrawal symptoms (including convulsions) reported following discontinuation of the drug

Usage in Pregnancy: Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy. Advise patients to discuss therapy if they intend to or do become pregnant.

As with all anticholinergics, inhibition of lactation may occur

Precautions: In elderly and debilitated, limit dosage to smallest effective amount to preclude ataxia, oversedation, confusion (no more than 2 capsules/day initially, increase gradually as needed and tolerated). Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider pharmacology of agents, particularly potentiating drugs such as MAO inhibitors, phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions reported in psychiatric patients. Employ usual precautions in treating anxiety states with evidence of impending depression, suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation reported very rarely in patients receiving the drug and oral anticoagulants, causal relationship not established

Adverse Reactions: No side effects or manifestations not seen with either compound alone reported with Librax. When chlordiazepoxide HCl is used alone, drowsiness, ataxia, confusion may occur, especially in elderly and debilitated, avoidable in most cases by proper dosage adjustment, but also occasionally observed at lower dosage ranges. Syncope reported in a few instances. Also encountered isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent, generally controlled with dosage reduction, changes in EEG patterns may appear during and after treatment, blood dyscrasias (including agranulocytosis), jaundice, hepatic dysfunction reported occasionally with chlordiazepoxide HCl, making periodic blood counts and liver function tests advisable during protracted therapy. Adverse effects reported with Librax typical of anticholinergic agents, i.e., dryness of mouth, blurring of vision, urinary hesitancy, constipation. Constipation has occurred most often when Librax therapy is combined with other spasmolytics and/or low residue diets



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The proven antispasmodic and antisecretory actions of Quarzan® (clidinium bromide/Roche) for the ulcer

The well-known antianxiety action of Librium® (chlordiazepoxide HCl/Roche) for the accompanying anxiety found in many ulcer patients

Specify *Adjunctive*
Librax®

Each capsule contains 5 mg chlordiazepoxide HCl and 2.5 mg clidinium Br

Antianxiety/Antisecretory/Antispasmodic

Librax has been evaluated as possibly effective for this indication. Please see brief summary of prescribing information on facing page.

Micrograph of simulated gastric hypersecretion.

Although weight loss achieved in a weight control program varies from patient to patient, this simulated sequence of a professional model illustrates dramatically the benefits of a successful weight loss program.



getting there...

...takes dietary restriction, regular exercise, behavior modification, and sometimes the addition of an effective anorectic.

prescribe

Tenuate® Dospan® ^{IV} (diethylpropion hydrochloride NF)

75 mg. controlled-release tablets

the #1 prescribed anorectic

An effective short-term adjunct in an indicated weight loss program

Overweight patients in certain diagnostic categories often require strict obesity control. Diethylpropion hydrochloride has been reported useful in obese patients with certain complications. While it is not suggested that Tenuate in any way reduces these complications in the overweight, it may have a useful place as a short-term adjunct in a prescribed dietary regimen. Tenuate should not be administered to patients with severe hypertension; see additional Warnings and Precautions on this page.

In uncomplicated obesity

Many patients, on the other hand, present with excess fat but no disease. While this condition is often termed uncomplicated obesity, complications of both a social and a psychologic nature may be distressingly real for the patients. In these cases, a short-term regimen of Tenuate can help reinforce your dietary counsel during the important early weeks of an indicated weight loss program.

Clinical effectiveness

The anorectic effectiveness of diethylpropion hydrochloride is well documented. No less than 18 separate double-blind, placebo-controlled studies attest to its usefulness in daily practice.¹ And the unique chemistry of Tenuate provides "... anorectic potency with minimal overt central nervous system or cardiovascular stimulation." ² Compared with the amphetamines, diethylpropion has minimal potential for abuse.

**Tenuate—it makes sense.
And it's responsible medicine.**

Merrell

Tenuate® ^{IV}
(diethylpropion hydrochloride NF)

Tenuate Dospan® ^{IV}
(diethylpropion hydrochloride NF)
controlled-release

AVAILABLE ONLY ON PRESCRIPTION

Brief Summary

INDICATION: Tenuate and Tenuate Dospan are indicated in the management of exogenous obesity as a short-term adjunct (a few weeks) in a regimen of weight reduction based on caloric restriction. The limited usefulness of agents of this class should be measured against possible risk factors inherent in their use such as those described below.

CONTRAINDICATIONS: Advanced arteriosclerosis, hyperthyroidism, known hypersensitivity, or idiosyncrasy to the sympathomimetic amines, glaucoma. Agitated states. Patients with a history of drug abuse. During or within 14 days following the administration of monoamine oxidase inhibitors, (hypertensive crises may result).

WARNINGS: If tolerance develops, the recommended dose should not be exceeded in an attempt to increase the effect; rather, the drug should be discontinued. Tenuate may impair the ability of the patient to engage in potentially hazardous activities such as operating machinery or driving a motor vehicle; the patient should therefore be cautioned accordingly. *Drug Dependence:* Tenuate has some chemical and pharmacologic similarities to the amphetamines and other related stimulant drugs that have been extensively abused. There have been reports of subjects becoming psychologically dependent on diethylpropion. The possibility of abuse should be kept in mind when evaluating the desirability of including a drug as part of a weight reduction program. Abuse of amphetamines and related drugs may be associated with varying degrees of psychologic dependence and social dysfunction which, in the case of certain drugs, may be severe. There are reports of patients who have increased the dosage to many times that recommended. Abrupt cessation following prolonged high dosage administration results in extreme fatigue and mental depression; changes are also noted on the sleep EEG. Manifestations of chronic intoxication with anorectic drugs include severe dermatoses, marked insomnia, irritability, hyperactivity, and personality changes. The most severe manifestation of chronic intoxications is psychosis, often clinically indistinguishable from schizophrenia. *Use in Pregnancy:* Although rat and human reproductive studies have not indicated adverse effects, the use of Tenuate by women who are pregnant or may become pregnant requires that the potential benefits be weighed against the potential risks. *Use in Children:* Tenuate is not recommended for use in children under 12 years of age.

PRECAUTIONS: Caution is to be exercised in prescribing Tenuate for patients with hypertension or with symptomatic cardiovascular disease, including arrhythmias. Tenuate should not be administered to patients with severe hypertension. Insulin requirements in diabetes mellitus may be altered in association with the use of Tenuate and the concomitant dietary regimen. Tenuate may decrease the hypotensive effect of guanethidine. The least amount feasible should be prescribed or dispensed at one time in order to minimize the possibility of overdose. Reports suggest that Tenuate may increase convulsions in some epileptics. Therefore, epileptics receiving Tenuate should be carefully monitored. Titration of dose or discontinuance of Tenuate may be necessary.

ADVERSE REACTIONS: *Cardiovascular:* Palpitation, tachycardia, elevation of blood pressure, precordial pain, arrhythmia. One published report described T-wave changes in the ECG of a healthy young male after ingestion of diethylpropion hydrochloride. *Central Nervous System:* Overstimulation, nervousness, restlessness, dizziness, jitteriness, insomnia, anxiety, euphoria, depression, dysphoria, tremor, dyskinesia, mydriasis, drowsiness, malaise, headache; rarely psychotic episodes at recommended doses. In a few epileptics an increase in convulsive episodes has been reported. *Gastrointestinal:* Dryness of the mouth, unpleasant taste, nausea, vomiting, abdominal discomfort, diarrhea, constipation, other gastrointestinal disturbances. *Allergic:* Urticaria, rash, ecchymosis, erythema. *Endocrine:* Impotence, changes in libido, gynecomastia, menstrual upset. *Hematopoietic System:* Bone marrow depression, agranulocytosis, leukopenia. *Miscellaneous:* A variety of miscellaneous adverse reactions has been reported by physicians. These include complaints such as dyspnea, hair loss, muscle pain, dysuria, increased sweating, and polyuria.

DOSE AND ADMINISTRATION: Tenuate (diethylpropion hydrochloride): One 25 mg. tablet three times daily, one hour before meals, and in mid evening if desired to overcome night hunger. Tenuate Dospan (diethylpropion hydrochloride) controlled-release: One 75 mg. tablet daily, swallowed whole, in mid morning. Tenuate is not recommended for use in children under 12 years of age.

OVERDOSEAGE: Manifestations of acute overdose include restlessness, tremor, hyperreflexia, rapid respiration, confusion, assaultiveness, hallucinations, panic states. Fatigue and depression usually follow the central stimulation. Cardiovascular effects include arrhythmias, hypertension or hypotension and circulatory collapse. Gastrointestinal symptoms include nausea, vomiting, diarrhea, and abdominal cramps. Overdose of pharmacologically similar compounds has resulted in fatal poisoning, usually terminating in convulsions and coma. Management of acute Tenuate intoxication is largely symptomatic and includes lavage and sedation with a barbiturate. Experience with hemodialysis or peritoneal dialysis is inadequate to permit recommendation in this regard. Intravenous phenolamine (Regitine®) has been suggested on pharmacologic grounds for possible acute, severe hypertension, if this complicates Tenuate overdose.

Product Information as of January, 1980

MERRELL-NATIONAL LABORATORIES Inc.
Cayey, Puerto Rico 00633

Direct Medical Inquiries to:
MERRELL OOW PHARMACEUTICALS INC.
Subsidiary of The Oow Chemical Company
Cincinnati, Ohio 45215
Licensor of Merrell®

References: 1. Citations available on request from Merrell Oow Pharmaceuticals Inc., Cincinnati, Ohio 45215. 2. Hoekenga, M.T. et al: A comprehensive review of diethylpropion hydrochloride. In *Central Mechanisms of Anorectic Drugs*, S. Garattini and R. Samanin, Ed., New York, Raven Press, 1978, pp. 391-404

DRAMATIC NEW CLINICAL PROOF*

In the treatment of impetigo-

- **100% cure rate with Tegopen®** (cloxacillin sodium)
- **only a 60% cure rate with penicillin V-K**



As seen on admission



After one week of penicillin V-K therapy



Two weeks after initiation of TEGOPEN therapy

Treatment failure was judged to have occurred when lesions increased in size and/or number during the initial week of treatment with penicillin V-K. No treatment failures occurred with Tegopen.

*Data on file, Bristol Laboratories.

Brief Summary of Prescribing Information

TEGOPEN®
(cloxacillin sodium)
Capsules and Oral Solution

For complete information, consult Official Package Circular.

(12) 9/11/75

INDICATIONS:

Although the principal indication for cloxacillin sodium is in the treatment of infections due to penicillinase-producing staphylococci, it may be used to initiate therapy in such patients in whom a staphylococcal infection is suspected. (See Important Note below.)

Bacteriologic studies to determine the causative organisms and their sensitivity to cloxacillin sodium should be performed.

IMPORTANT NOTE

When it is judged necessary that treatment be initiated before definitive culture and sensitivity results are known, the choice of cloxacillin sodium should take into consideration the fact that it has been shown to be effective only in the treatment of infections caused by pneumococci, Group A beta-hemolytic streptococci, and penicillin G-resistant and penicillin G-sensitive staphylococci. If the bacteriology report later indicates the infection is due to an organism other than a penicillin G-resistant staphylococcus sensitive to cloxacillin sodium, the physician is advised to continue therapy with a drug other than cloxacillin sodium or any other penicillinase-resistant semi-synthetic penicillin.

Recent studies have reported that the percentage of staphylococcal isolates resistant to penicillin G outside the hospital is increasing, approximating the high percentage of resistant staphylococcal isolates found in the hospital. For this reason, it is recommended that a penicillinase-resistant penicillin be used as initial therapy for any suspected staphylococcal infection until culture and sensitivity results are known.

Cloxacillin sodium is a compound that acts through a mechanism similar to that of methicillin against penicillin G-resistant staphylococci. Strains of staphylococci resistant to methicillin have existed in nature and it is known that the number of these strains reported has been increasing. Such strains of staphylococci have been capable of producing serious disease, in some instances resulting in fatality. Because of this, there is concern that widespread use of the penicillinase-resistant penicillins may result in the appearance of an increasing number of staphylococcal strains which are resistant to these penicillins.

Methicillin-resistant strains are almost always resistant to all other penicillinase-resistant penicillins (cross-resistance with cephalosporin derivatives also occurs frequently). Resistance to any penicillinase-resistant penicillin should be interpreted as evidence of clinical resistance to all, in spite of the fact that minor variations in *in vitro* sensitivity may be encountered when more than one penicillinase-resistant penicillin is tested against the same strain of staphylococcus.

CONTRAINDICATIONS:

A history of a previous hypersensitivity reaction to any of the penicillins is a contraindication.

RESULTS OF ORAL THERAPY revealed a high percentage of treatment failures with penicillin V potassium, but *no* failures with Tegopen.

| | | Given Tegopen® (cloxacillin sodium) | Given penicillin V-K |
|--|---------------------|--|-------------------------|
| <i>Staphylococcus aureus</i> | (78 patients) | 39 | 39 |
| Returned to clinic at one week | ..... | 29† | 38† |
| Treatment failure at one week | ..... | 0 | 18 (47.4%) |
| <i>Staphylococcus aureus</i> and <i>Streptococcus pyogenes</i> | (9 patients) | 4 | 5 |
| Returned to clinic at one week | ..... | 4 | 5 |
| Treatment failure at one week | ..... | 0 | 2 (40%) |
| No initial bacterial growth | (14 patients) | 9 | 5 |
| All 14 healed, regardless of which antibiotic was administered. | | | |
| Beta-hemolytic <i>Streptococcus</i> | (1 patient) | 0 | 1 |
| TOTALS: | 102 patients | 52 patients | 50 patients |

†Eleven patients did not return for their one-week checkup. These were all called by telephone, and their families reported

the lesions had healed. One patient was dropped from the study, early, because of adverse reaction to medication.

STUDY: DESCRIPTION/PROTOCOL

- 102 nonselected subjects, with initial bacteriology as follows: 77% *Staphylococcus aureus*, 9% mixed *Staphylococcus aureus* and *Streptococcus pyogenes*, and 1% beta-hemolytic *Streptococcus*.†
- All patients were given randomized therapy—Tegopen capsules or oral solution, or penicillin V-K tablets or oral solution, in recommended dosages according to body weight.

- All patients were evaluated after one week's therapy. If there was no improvement, therapy was switched to the other antibiotic. The "other antibiotic" proved to be Tegopen 100% of the time because no treatment failures had occurred with Tegopen.
- A final assessment of progress was made two weeks after initiation of Tegopen therapy.

†The remainder, to equal 100%, consisted of 14 patients (13%) who exhibited no initial bacterial growth. These 14 were all healed, whether given Tegopen or penicillin V-K.

TEGOPEN®

(cloxacillin sodium)

-effective therapy for staph infections of the skin and skin structures

WARNING:

Serious and occasionally fatal hypersensitivity (anaphylactoid) reactions have been reported in patients on penicillin therapy. Although anaphylaxis is more frequent following parenteral therapy it has occurred in patients on oral penicillins. These reactions are more apt to occur in individuals with a history of sensitivity to multiple allergens.

There have been well documented reports of individuals with a history of penicillin hypersensitivity reactions who have experienced severe hypersensitivity reactions when treated with a cephalosporin. Before therapy with a penicillin, careful inquiry should be made concerning previous hypersensitivity reactions to penicillins, cephalosporins, and other allergens. If an allergic reaction occurs, the drug should be discontinued and the patient treated with the usual agents, e.g., pressor amines, antihistamines, and corticosteroids.

Safety for use in pregnancy has not been established.

PRECAUTIONS:

The possibility of the occurrence of superinfections with mycotic organisms or other pathogens should be kept in mind when using this compound, as with other antibiotics. If superinfection occurs during therapy, appropriate measures should be taken.

As with any potent drug, periodic assessment of organ system function, including renal, hepatic, and hematopoietic, should be made during long-term therapy.

ADVERSE REACTIONS:

Gastrointestinal disturbances, such as nausea, epigastric discomfort, flatulence, and loose

stools, have been noted by some patients. Mildly elevated SGOT levels (less than 100 units) have been reported in a few patients for whom pretherapeutic determinations were not made. Skin rashes and allergic symptoms, including wheezing and sneezing, have occasionally been encountered. Eosinophilia, with or without overt allergic manifestations, has been noted in some patients during therapy.

USUAL DOSAGE:

Adults: 250 mg. q. 6h.

Children: 50 mg./Kg./day in equally divided doses q. 6h. Children weighing more than 20 Kg. should be given the adult dose. Administer on empty stomach for maximum absorption.

N.B.: INFECTIONS CAUSED BY GROUP A BETA-HEMOLYTIC STREPTOCOCCI SHOULD BE TREATED FOR AT LEAST 10 DAYS TO HELP PREVENT THE OCCURRENCE OF ACUTE RHEUMATIC FEVER OR ACUTE GLOMERULONEPHRITIS.

SUPPLIED:

Capsules—250 mg. in bottles of 100. 500 mg. in bottles of 100.
Oral Solution—125 mg./5 ml. in 100 ml. and 200 ml. bottles.

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Acute pain is no laughing matter.

The first prescription for the first days of acute pain **Empirin® \bar{c} Codeine #3**

Each tablet contains: aspirin, 325 mg; plus codeine phosphate, 30 mg, (Warning — may be habit-forming). 

For the millions of patients who need the potency of aspirin and codeine for their acute pain.

The pain of fractures, strains, sprains, burns and wounds is at its peak during the first three to four days following trauma. The potent action of Empirin \bar{c} Codeine begins to work within 15 minutes of oral administration, an important advantage during this acute pain period. Empirin \bar{c} Codeine has unique bi-level action to attack pain at two critical points: peripherally at the site of injury and centrally at the site of pain awareness.

For the most effective dosage in treating acute pain, begin with... two tablets of Empirin \bar{c} Codeine #2 or #3, every four hours. Titrate downward as pain subsides.

EMPIRIN® with Codeine

DESCRIPTION: Each tablet contains aspirin (acetylsalicylic acid) 325 mg plus codeine phosphate in one of the following strengths: No. 2 — 15 mg, No. 3 — 30 mg, and No. 4 — 60 mg. (Warning — may be habit-forming.) 

CONTRAINDICATIONS: Hypersensitivity to aspirin or codeine.

WARNINGS:

Drug dependence: Empirin with Codeine can produce drug dependence of the morphine type and, therefore, has the potential for being abused. Psychic dependence, physical dependence, and tolerance may develop upon repeated administration of this drug and it should be prescribed and administered with the same degree of caution appropriate to the use of other oral, narcotic-containing medications. Like other narcotic-containing medications, the drug is subject to the Federal Controlled Substances Act.

Use in ambulatory patients: Empirin with Codeine may impair the mental and/or physical abilities required for the performance of potentially hazardous tasks such as driving a car or operating machinery. The patient using this drug should be cautioned accordingly.

Interaction with other central nervous system (CNS) depressants: Patients receiving other narcotic analgesics, general anesthetics, phenothiazines, other tranquilizers, sedative-hypnotics, or other CNS depressants (including alcohol) concomitantly with Empirin with Codeine may exhibit an additive CNS depression. When such combined therapy is contemplated, the dose of one or both agents should be reduced.

Use in pregnancy: Safe use in pregnancy has not been established relative to possible adverse effects on fetal development. Therefore, Empirin with Codeine should not be used in pregnant women unless, in the judgment of the physician, the potential benefits outweigh the possible hazards.

PRECAUTIONS:

Head injury and increased intracranial pressure: The respiratory depressant effects of narcotics and their capacity to elevate cerebrospinal fluid pressure may be markedly exaggerated in the presence of head injury, other intracranial lesions or a pre-existing increase in intracranial pressure. Furthermore, narcotics produce adverse reactions which may obscure the clinical course of patients with head injuries.

Acute abdominal conditions: The administration of Empirin with Codeine or other narcotics may obscure the diagnosis or clinical course in patients with acute abdominal conditions.

Allergic: Precautions should be taken in administering salicylates to persons with known allergies; patients with nasal polyps are more likely to be hypersensitive to aspirin.

Special risk patients: Empirin with Codeine should be given with caution to certain patients such as the elderly or debilitated, and those with severe impairment of hepatic or renal function, hypothyroidism, Addison's disease, prostatic hypertrophy or urethral stricture, peptic ulcer, or coagulation disorders.

ADVERSE REACTIONS: The most frequently observed adverse reactions to codeine include light-headedness, dizziness, sedation, nausea and vomiting. These effects seem to be more prominent in ambulatory than in nonambulatory patients and some of these adverse reactions may be alleviated if the patient lies down. Other adverse reactions include euphoria, dysphoria, constipation, and pruritus.

The most frequently observed reactions to aspirin include headache, vertigo, ringing in the ears, mental confusion, drowsiness, sweating, thirst, nausea, and vomiting. Occasional patients experience gastric irritation and bleeding with aspirin. Some patients are unable to take salicylates without developing nausea and vomiting. Hypersensitivity may be manifested by a skin rash or even an anaphylactic reaction. With these exceptions, most of the side effects occur after repeated administration of large doses.

DOSAGE AND ADMINISTRATION: Dosage should be adjusted according to the severity of the pain and the response of the patient. It may occasionally be necessary to exceed the usual dosage recommended below in cases of more severe pain or in those patients who have become tolerant to the analgesic effect of narcotics. Empirin with Codeine is given orally. The usual adult dose for Empirin with Codeine No. 2 and No. 3 is one or two tablets every four hours as required. The usual adult dose for Empirin with Codeine No. 4 is one tablet every four hours as required.

DRUG INTERACTIONS: The CNS depressant effects of Empirin with Codeine may be additive with that of other CNS depressants. See WARNINGS.



Burroughs Wellcome Co.
Research Triangle Park
North Carolina 27709

Diagnosis and Management of Pyeloureteral Necrosis Following Renal Transplantation

James Mandell, M.D., Peter S. Stevens, M.D., and Stanley R. Mandel, M.D.

ABSTRACT In a series of 70 consecutive renal transplants, six patients (8.5%) were treated for postoperative pyeloureteral necrosis. The etiology of this complication is thought to be secondary to vascular compromise of the renal pelvis and ureter, as a result of faulty surgical technique or rejection. Early operative intervention is crucial in preserving renal function and in lowering patient mortality. Pyeloureteral anastomosis or repeat ureteroneocystomy with internal drainage was uniformly successful in establishing urinary tract continuity.

PYELOURETERAL necrosis with resulting urinary extravasation is a serious complication of transplant surgery. Although the etiology is controversial, it is clear that early operative intervention is crucial to renal salvage and lower patient mortality. Six patients in a series of 70 consecutive renal transplants (8.5%) developed post-transplant pyeloureteral necrosis, and are herein presented. The varieties of diagnostic and therapeutic modalities used in the management of this problem are discussed.

SURGICAL TECHNIQUES

All potential transplant recipients are routinely evaluated at North Carolina Memorial Hospital with urine cultures, voiding cystourethrography and cystoscopy. Echography and/or retrograde ureterograms are performed if no prior documentation of renal size or anatomy is available. Routine pre-transplant nephrectomy has not been performed since 1971, except in those patients with malignant hypertension or documented chronic pyelonephritis. At the time of transplantation, a ureteroneocystostomy is performed utilizing a non-intubated, short, submucosal tunnel. A cystogram is performed on the fourth postoperative day, and the urethral catheter removed if no extravasation is present.

Secondary reconstruction of the collecting system has been performed by repeat ureteroneocystostomy when the ureter appeared unquestionably viable. A fenestrated 12 French silastic catheter is placed as an internal ureteral stent and brought out through the urethra or bladder wall. If the ureter or renal pelvis appears ischemic, recipient ipsilateral nephrectomy and a watertight spatulated anastomosis of the donor pelvis or ureter to the recipient ureter is preferred. A 12 French silastic catheter is placed across the anastomosis and brought out through the kidney as a stenting

nephrostomy. This is left in place for a period of three to four weeks postoperatively.

CASE REPORTS

Case 1: M. W., an 18-year-old black male with endstage glomerulonephritis, received a cadaveric renal transplant on December 2, 1970. Postoperative oliguria, which progressed to anuria, was attributed to rejection, with intravenous urography demonstrating only non-visualization. Three weeks postoperatively, at the time of open renal biopsy, a perforation in the renal pelvis was found, and a circle nephropyllostomy tube was placed. Intercurrent infection with worsening of the clinical pyelonephritis necessitated transplant nephrectomy in December, 1975. A second cadaver transplant was performed in March 1976 and the patient continues with acceptable renal function.

Case 2: N. B., a 47-year-old white male with chronic glomerulonephritis and chronic prostatitis, underwent a sibling related renal transplant on November 11, 1975. At surgery, the bladder mucosa was noted to be markedly inflamed. Postoperative cystography demonstrated a normal bladder contour without extravasation. On the basis of diminished urinary output, abnormal renal scans, fever, abdominal tenderness and leukocytosis, a clinical diagnosis of rejection was made.

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Presented at the Southeastern Section Meeting of the American Urologic Association, Puerto Rico, March, 1980. Reprint requests to Dr. Mandell, Division of Urology, Department of Surgery, 428 Clinical Sciences Building, The University of North Carolina School of Medicine, Chapel Hill, N.C. 27514.

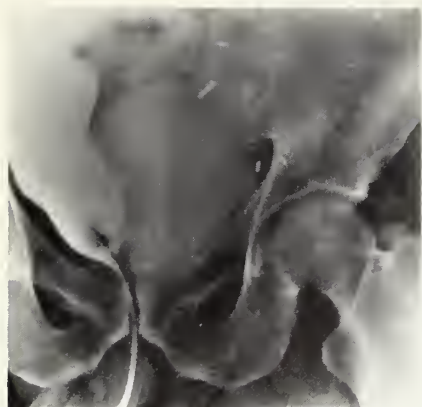


Figure 1. Cystogram showing lateral vesical displacement without extravasation.

and the patient begun on high dose steroids and radiation therapy. Pneumonia and pancreatitis ensued. Two weeks postoperatively, venography performed for evaluation of an edematous left lower extremity demonstrated hydronephrosis of the transplanted kidney and compression of the left side of the bladder. Repeat cystography (Fig. 1) revealed displacement of the lateral vesical wall without extravasation, and a retrograde ureterogram (Fig. 2) demonstrated a distal ureteral leak. Revision of the ureteroneocystostomy using the Paquin technique was performed. No further urologic problems were encountered, and renal function remained normal, although the patient died six months later from complications associated with pancreatic pseudocyst, gastro-intestinal bleeding, and brain abscess.

Case 3: J. M., a 37-year-old black



Figure 2. Retrograde under fluoroscopy revealing ureteral extravasation.

male with endstage nephrosclerosis, received a cadaveric renal transplant on June 24, 1976. Urine output was adequate intraoperatively, but within hours anuria ensued. Renal scans were interpreted as compatible with acute tubular necrosis. Postoperative cystography showed deviation of the bladder to the right without extravasation. Nine days postoperatively, a repeat renal scan was interpreted as showing urinary extravasation, and in retrospect, was similar to previous studies. Exploratory laparotomy revealed separation of the implanted ureter from the bladder with a large perivesical hematoma and free urinary extravasation. Revision of the ureteroneocystostomy was performed, and postoperative urine output was excellent. The patient died during this admission from multiple fungal abscesses, and post-mortem examination revealed a viable transplant and an intact collecting system.

Case 4: R. C., a 41-year-old white male with endstage glomerulonephritis received a sibling renal transplant, on January 19, 1977. Postoperatively, diminished urinary output was only partially responsive to diuretics. Renal imaging was interpreted as compatible with acute tubular necrosis or rejection, echography showed hydronephrosis without perinephric collection, and the patient was treated with high dose steroids and radiation therapy. Percutaneous renal biopsy was interpreted as showing evidence of acute tubular necrosis and chronic inflammation. Postoperative cystography demonstrated no extravasation and a normal bladder contour. Nine days postoperatively, the patient was explored because of abdominal pain and distention with a tentative diagnosis of colonic infarction. At surgery, however, the entire ureter and renal pelvis were necrotic. Ipsilateral nephrectomy and pyeloureterostomy were performed. Postoperatively the patient did well with serum creatinine reaching normal values.

Case 5: L. P., a 29-year-old female with chronic glomerulonephritis,

underwent a sibling related renal transplant on January 17, 1976. Two days postoperatively an increase in drainage from the wound was noted. Renal scan showed no definite extravasation, but a small amount of radioactivity of questionable significance was noted in the drainage fluid. Creatinine and BUN levels in the fluid were markedly higher than serum values but slightly below urinary levels. At exploration there was disruption of the ureterovesical anastomosis with a large perivesical clot. Revision of the ureteroneocystostomy was performed. Four days after the second operative procedure, the stenting catheter was displaced and abrupt oliguria was noted. Intravenous pyelography (Figs. 3 and 4) demonstrated retroperitoneal extravasation. At re-exploration, a totally necrotic ureter with ureterovesical separation was found, and ipsilateral nephrectomy and ureteroureterostomy were performed. The patient did well thereafter with serum creatinine levels returning to normal.

Case 6: J. W., a 28-year-old white male with endstage nephrosclerosis, underwent a cadaveric renal transplant on March 1, 1977. Postoperative cystography demonstrated normal bladder contour without extravasation. The patient

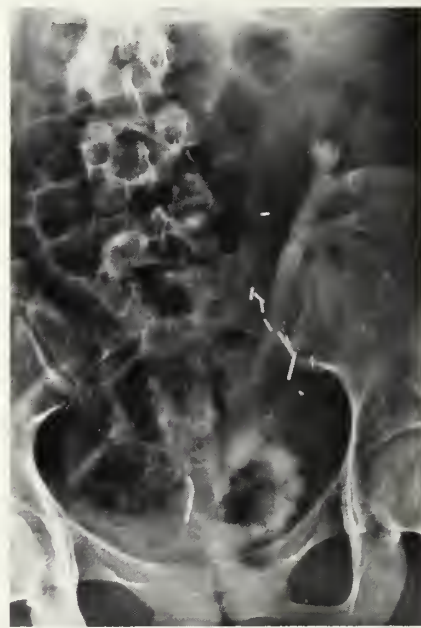


Figure 3. IVP showing unusually shaped collection dye at ureterovesical junction.

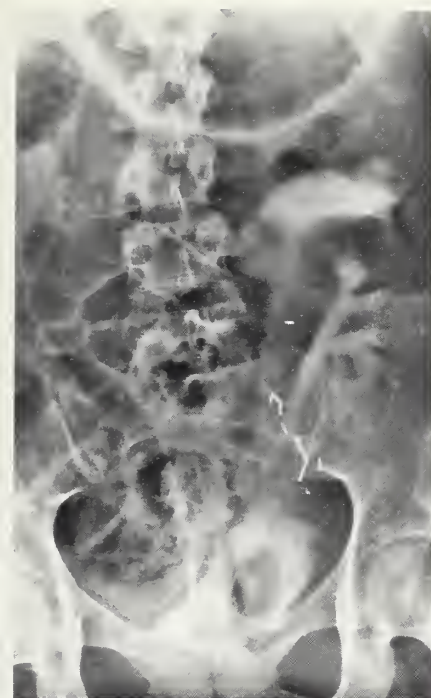


Figure 4. Delayed film revealing frank retroperitoneal extravasation.

was treated for rejection with high dose steroids and radiation therapy, and at discharge three weeks postoperatively, serum creatinine was 2.8 mg/dl. An intravenous pyelogram (Fig. 5) performed one month later (after persistent asymptomatic urinary staphylococcal infection was noted) showed contrast entering a dumb-bell shaped mass which appeared to be a collection of urine outside the bladder. Renal scan was interpreted as demonstrating possible urinary extravasation with a collection of radioactive material near the inferior pole of the kidney. Cystography revealed lateral deviation of the bladder without extravasation, and at cystoscopy the left lateral wall of the bladder was compressed medially. Retrograde ureteral catheterization was unsuccessful. Under ultrasonic control, a catheter was placed percutaneously in the renal pelvis and an antegrade pyelogram (Fig. 6) was performed which demonstrated a distal ureteral leak. At exploration there was necrosis of the entire ureter and part of the renal pelvis, and ipsilateral nephrectomy and pyeloureterostomy were performed. Postoperatively the patient's serum creatinine returned to normal values.



Figure 5. IVP showing dumb-bell shaped mass consisting of bladder and probable perivesical "pseudodiverticulum."

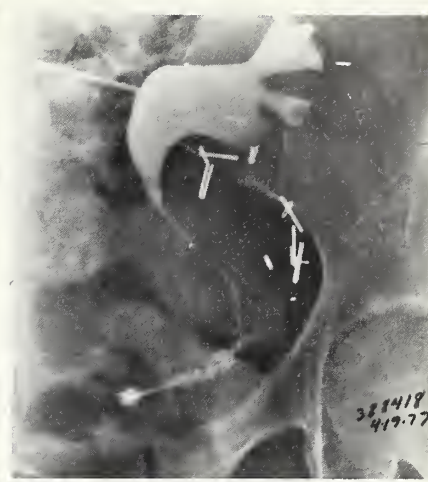


Figure 6. Antegrade pyelogram performed with ultrasound showing ureteral extravasation.

COMMENTS

Up to 12% of transplanted kidneys are lost secondary to technical problems, with urologic complications far in excess of other causes.¹ Starzl² reported a 9% incidence of postoperative complications utilizing the technique of non-intubated ureteroneocystostomy with a short submucosal bladder tunnel. The majority of transplant surgeons favor ureteroneocystostomy as a technique of choice, since the reported complication rate from either pyeloureterostomy or ureteroureterostomy is significantly higher.³ Our complication rate of 8.5% is comparable with reported series of urinary extravasation and fistula formation.⁴

Ureteral necrosis is probably secondary to compromise of the vascular supply to the collecting system during donor nephrectomy. This is reportedly more common with living related graft recipients, and probably results from the more extensive perihilar dissection during donor nephrectomy when compared to cadaveric kidney procurement.⁵ To preserve the hilar ureteral vessels, all perihilar dissection should be carried out medial to the gonadal vein on the left and close to the vena cava on the right. In addition, necrosis of the entire renal pelvis and ureter in association with severe graft rejection has been observed.⁶

The presence, location and anat-

omy of the native kidneys and collecting systems of a potential recipient should be determined. If earlier studies are unavailable, echography and/or retrograde ureterography are indicated. A history of urologic difficulties necessitates careful evaluation of the recipient's lower urinary system. Adequate treatment of pre-existent urologic disease, including reflux, obstruction, or infection, is extremely important. Our patients are all screened preoperatively with cystourethrography and cystoscopy.

The diagnosis of urinary extravasation is often difficult as graft rejection presents similar signs. Early diagnosis is imperative if wound infection, septicemia and death are to be prevented. Most morbidity and mortality have resulted from late intervention for reconstruction or allograft removal. Radiographic techniques, including renal nuclear scanning, are extremely valuable in determining allograft viability and differentiating between acute tubular necrosis, urinary obstruction, and rejection. However, in this series, this modality was only occasionally successful in defining urinary extravasation. Early intravenous pyelography is also helpful in delineating obstruction or extravasation, and in two patients led to prompt exploration and reconstruction. Cystography will often demonstrate bladder displacement, but even with ureterovesical disruption

failed to demonstrate urinary extravasation in this series of patients. Lateral vesical wall deviation demands exclusion of hematoma, urinoma, lymphocele, or fibrosis. Retrograde ureterograms can be helpful as with Case 2, but catheterizing the newly implanted ureteral orifice may be difficult. If hydronephrosis is present, percutaneous antegrade pyelography may establish the diagnosis.

Echography has been useful in demonstrating a perirenal or perivesical mass, but may not distinguish between a dilated collecting system, a lymphocele and an extravascular collection of urine. Comparison of creatinine and BUN concentrations in fluid obtained from the wound or aspirated under sonographic control to those in serum or bladder urine is very helpful in determining whether extravasation is present.

The remobilization necessary during ureteroneocystostomy following pyeloureteral necrosis may further compromise the ureteral vascularity. Therefore, anastomosis of the donor ureter or renal pelvis to the recipient's pelvic ipsilateral ureter is most often the procedure of choice,

although a host nephrectomy must usually be performed with this procedure. Patients with pretransplant nephrectomy for hypertension or pyelonephritis usually have this portion of the ureter undisturbed. In cases in which the recipient is in a precarious condition, an end to side ureteroureterostomy, leaving the host kidney *in situ*, may be done. If the distal ureter has been removed or is abnormal, repeat ureteroneocystostomy with or without Boari flap or pyelovesical anastomosis with a psoas hitch may be utilized. Renal salvage was completely successful in five of our patients in which either repeat ureteroneocystostomy or ureteropyelostomy was performed. In two (Cases 2 and 3) who died of infection related to immunosuppression, functioning ureterovesical anastomoses were present at the patient's demise.

CONCLUSION

Pyeloureteral necrosis with urinary extravasation is a transplant complication fraught with potential morbidity and mortality. To decrease risk, careful preoperative recipient evaluation, preservation of

the renal hilar ureteral vessels during dissection, and careful attention to proper techniques for ureterovesical anastomosis are essential.

Diagnostic studies should be done early, since prolonged leakage is associated with increasing morbidity and mortality. But, despite renal scanning, intravenous and retrograde urography, cystography, echography and chemical laboratory determinations, this diagnosis can be elusive and therapeutic intervention delayed.

Although ureteroneocystostomy is favored as the primary method of implantation, in secondary salvage operations, pyeloureteral or ureteroureteral anastomosis with stenting silastic catheters is recommended.

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Physical Diagnosis of Thoracic Aneurism

To the Editor of the Lancet

Sir,—as the diagnosis of thoracic aneurism of the aorta is often difficult and obscure, notwithstanding the various physical means we have now at our disposal for detecting it, I am desirous of mentioning a method of examination which has afforded me material assistance in diagnosing this disease (or even simple dilatation of the vessel), when it occurs, as is most generally the case, either in the ascending or the first part of the transverse portion of the arch.

The process is as follows:—Place the patient in the erect position, and direct him to close his mouth, and elevate his chin to the fullest extent, then grasp the cricoid cartilage between the finger and thumb, and use gentle upward pressure on it, when if dilatation or aneurism exist, the pulsation of the aorta will be distinctly felt transmitted through the trachea to the hand. The act of examination will increase laryngeal distress should this accompany the disease.

Yours, &c,

W. S. Oliver, M.D., Surgeon-Major.
Sept. 13th, 1878.—Lancet, 1878.

SPECIAL ARTICLE

The Soul in Left-Handers: A Neurologic Site Visit

Edward V. Spudis, M.D.

IT seems that any comments about souls of human beings would be misplaced in a state medical journal. Consider, however, that the lifestyles of a vast majority of people alive now, the Iranians, for instance, are governed by a constant concern over the quality of after-life, and that many Third World people are fanatically concerned about nothing else. This is especially true if we wish to consider after-life and survival of the soul as similar concepts. Such intense pre-occupations with souls must influence mental and physical health, but now, in this decade, both rural and academic clinicians will actually be challenged to decide who or what has a soul, where it is, and how long it should be nurtured.

In one of the world's most widely circulated medical journals a special communication opposing brain-death legislation objects to any decisions based on cessation of brain function.¹ "Brain function is so defined as to take the place of the immaterial principle or Soul of man . . . It reduces the life of the human

person to a putative organic function of the material brain." The authors state that permanent idleness of the brain is not the same as loss of existence. We are left to decide how great the destruction must be to release the soul, or, if there is no destruction, when the soul actually leaves an idle brain. And, in the often-quoted *New England Journal of Medicine*, Christina Hoff states, "Each human life, no matter how impoverished, has a depth and meaning that transcends that of even the most gifted dolphin or chimpanzee"; that human lives characteristically "develop and unfold . . ." and are "generally worthier . . ." than those of animals whose desires are ". . . restricted to his place in time and space."² She offers animals moral status and the ability to feel pain but not to suffer.

These authors, and others, suggest that the soul may have an awareness distinct from the "content of awareness."³ Being aware sounds like a form of being alive, and it is easy to predict that theories of the locations and care of such an awareness will be scrutinized carefully, as techniques for brain support evolve. The California cryogenic society preserves members in a feet-up-head-down position because inadvertent warming always

begins at the top of the tank. North Carolina physicians have been sheltered from such West Coast pioneers so far, but we will be forced to make more and more decisions about locations and departures of souls.

THE NON-CEREBRAL SOUL

Weber illustrates one artist's concept of the soul as a newborn child exiting from the mouth of a 15th century dying patient.⁴ The soul equated with after-life is an ancient concept. Critchley suggested that vapors rising from abdominal wounds were considered ominous trails of departing souls.⁵ The heart, liver, spleen and intestine were considered important soul sites, prior to modern shifts to the head. The pineal seemed important at one time and is still the first choice of shy intellectuals in small social gatherings.

THE SOUL MUST BE PARTLY IN THE BRAIN

Phrenologists stimulated efforts to compartmentalize brain activities. The crude cortical stimulations of the 18th century brought convincing evidence that the brain is neither anatomically or electrically homogenous. Does the soul have to be in a single place? The intestines

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and kidneys are no longer considered probable sites because they can be bypassed and replaced, and because thoughts are created elsewhere. The ability to think, to have the potential to think or to have thought at sometime in the past are all important criteria for soul anatomists. The heart has been a prime candidate to harbor souls or portions thereof, but organs have always been abandoned once their function has been clarified. The heart has a truly simple hydraulic assignment compared to that of the brain.

Geshwind points out that we habitually think of each other, and of patients, in a unitary fashion.⁶ We seldom say, "Is your hypothalamus hungry?" He suggests that the disconnected spinal cord of a paraplegic patient causes urination, not the patient. An alternate attitude is that the nervous system cannot be subdivided at all, that all matter is connected by a superluminal nexus, that non-Newtonians believe the principle of local causes is false, and that no models of reality are possible.⁷ From another viewpoint, that of a malpractice jury, clinicians need practical guidelines for what would probably seem like reality to the jury.

Although there are 15 billion neurons — approximately — and although the number of *possible* synaptic combinations is greater than the number of particles in the entire universe, certain regions of the brain do have distinctive, seemingly simple, functions.⁸

The primary receptive regions for sound, vision and touch are activated by specific incoming impulses that may be recorded from electrodes on the cortical surface, or the scalp, using newly-popular evoked response methods.⁹ These regions are as near as four synapses to the source of stimulation and may be considered an extension of the peripheral sensory fibers. The olfactory brain neurons actually receive impulses from the peripheral receptor without passing a single synapse.¹⁰ Insults to one of these central regions may be indistinguishable from lesions in the same pathway peripherally. We know

that a one-half square millimeter of primary visual cortex receives a few thousand fibers from one lateral geniculate, that these terminate on neurons arranged in six neat layers in a vertically partitioned cortex. Such a column is devoted to an evaluation of the field of a single retinal ganglion cell and alternates with columns receiving the same information from the opposite eye. These columns, like stacked boxes of Girl Scout cookies — six cookies to a box — are similar throughout the whole visual cortex. Axons from the second and third layers send an abstraction of this information forward into the temporal lobe language areas, and, specifically, into hippocampal-thalamic memory.¹¹ Similar localized reception occurs in the somatosensory cortex.

The soul is not likely to dwell in a peripheral nerve or a primary brain receptive area. This would exclude large areas of each temporal lobe, the post central gyri, each occipital cortex, optic tract, and geniculate body. Helen Keller lost most primary reception but no one has suggested she was soul-less.

A THALAMIC SITE

The thalami also have some well-recognized functions. Posterior nuclei are in part, simple switchers for incoming sensory signals from the extremities and face. Stimulation of the left ventrolateral thalamus in right-handers causes anomia.¹² A thalamic role in speech production was recently described in a landmark Russian article by Bechtereva, who can predict which words a subject is about to say by studying the firing sequences of groups of neurons.¹³ Patients with implanted thalamic electrodes were asked to say specific words in response to pictures of furniture. After multiple trials a computerized average discharge pattern was identified; i.e., an electrical signature for a chair or table, and a generic pattern for all furniture. This electrical mind reading, if we can believe it, does not suggest that the thought of furniture necessarily arose in the neurons impaled. It does tend to confirm the growing

clinical and computerized tomography (CT) evidence that lesions confined to the thalamus may cause language problems. Anterior thalamic lesions interfere with memory. Long-term memory has an orderly topography with our most recent impressions residing in the hippocampi near the medial temporal tips. New ideas or events worth preserving seem to stuff themselves into the bulbous anterior ends driving older "packets" upward and then forward into the fornices, mammillary bodies, and anterior thalamus, somewhat like returning bowling balls.¹⁴ Interestingly, immediate or instantaneous memory is possible if the primary receptive areas are preserved, but lesions disconnecting primary areas from the medial temporal lobe will disrupt *intermediate* memory, e.g., an inability to draw a floor plan of your home.¹⁵ This circuitry is not restrictively lateralized since damage to one side may cause only mild forgetfulness, whereas bilateral damage, e.g., herpes simplex encephalitis, may cause devastating forgetfulness.

ARE MOTOR PATHWAYS MYSTERIOUS?

The precentral gyri seem devoted to neurons and supporting glial cells directly responsible for initiating impulses passing through the internal capsules into the peduncles and downward to anterior spinal cells. Extra pyramidal ganglia, e.g., caudate, globus pallidus, modify down-going motor discharges and are relatively expendable from the standpoint of intelligence and consciousness. A good example is the droll sophistication of scholars who develop severe Parkinson's disease. The cerebellum occupies approximately 10% of the intracranial volume but may be congenitally absent in normal people. Irritating cerebellar lesions may cause aberrations of movement but not of any uniquely human qualities.

When strength and coordination are maintained, but the patient has forgotten (apraxia) how to open a tuna fish can, his lesion is not in the motor strip. It is closer to the origin of the thought to move, either in the

supramarginal gyrus or fibers "en passage" toward Broca's area. All of those axons that are activated by a thought which ultimately initiates movement are, in my opinion, part of the motor system.

DISCONNECTIONS

Nearly every relative of a dysphasic patient will say or think: "She knows what she wants to say but can't find the words." The speech center has access to a particular pattern of local neurons to be fired — a memory — when the face of a familiar family member causes a distinctive visual signal to be sent from the occipital cortex forward. If the speech center (Broca's area) is disconnected from the angular gyrus, the patient cannot say Uncle Frank's name but could choose him visually from a group. If the disconnection is in the corpus callosum, the patient may be able to identify a friend or object with the right hand but not be able to transfer this information to the opposite hand. In such cases the right hemisphere is unconscious — *if* consciousness requires a verbal response. Disconnection of the left occipital cortex, and adjacent fibers of the splenium, causes alexia with preserved ability to write. Disconnection of Wernicke's area in the superior temporal gyrus isolates primary auditory reception, causing word deafness in the presence of normal hearing and auditory reception. A large bundle of fibers, the arcuate fasciculus, circles the posterior Sylvian fissure carrying subcortical fibers connecting all of these language areas.

The human neonate may be the most common example of a split brain or disconnection preparation, with *perhaps* equal capabilities for language in each hemisphere. The soul must gradually shift to the left if it is equated with language. This has been proposed exactly by the Nobel laureate J. C. Eccles.^{16,17}

As the corpus callosum and anterior commissure become available in the first two years of life, the *left* hemisphere begins to ask (?) more questions of the exploring right hand. In agenesis of the corpus callosum, a chronically split brain, is the soul substance divided or is it doubled? (Since certain religious

sects only have room for a finite number of souls in heaven, would such a half-souled person have better prospects?) Paradoxically the right hemisphere in the adult seems to do less; it is missed less when insulted and contains more "silent" regions. If there are unused or extra regions in the right hemisphere, language functions should easily be shifted to the right when the left hemisphere becomes unavailable. Milner suggests that the natural functions of the right hemisphere then become embarrassed.¹⁴

THE BIG PLANUM TEMPORALIS

After hundreds of thousands of detailed autopsies over several centuries it became obvious only in the past 20 years that the left superior temporal cortex, buried within the Sylvian fissure, is usually larger than that on the right. This asymmetry results in a more horizontal groove in the inner table of the temporal bone on the left, an asymmetry which can even be seen in Neanderthal skulls and in certain other primates.¹⁸ (If the soul is confined to the dominant hemisphere for handedness then we could predict its probable former location in people dead for 50,000 years!)

In right-handers language is more obviously disturbed when lesions involve the left hemisphere. Polyglots do not have grossly swollen gyri even though they speak and understand many languages.¹⁹ Preliminary studies with CT hint that dyslexic patients may have lost this hemispheric asymmetry programmed into most of us at birth.^{20,21} When a baseball player is switched to bat left-handed, does this alter available parietal space?

ANATOMY OF CONSCIOUSNESS

Assume that consciousness requires an ability to think, or an ability to respond. Thinking is the lag time between incoming stimuli and the initiation of a response and could be applied to the synaptic delays in a three-neuron system. The degree of consciousness in an organism seems to be a function of neuronal number and connectivity. (Eccles suggests that one quality of consciousness — awareness of ex-

istence — was obviously present in any prehistoric group that buried their dead.²²) Is there an awareness separate from thinking? There is new evidence that certain brain regions in healthy humans show increased metabolism at the time certain thoughts are initiated, for instance, the thought to move a hand. Scalp-recorded brain waves give a few hints about this relationship, but blood flow measured by xenon confirms our presumptions that localized neuronal activity causes localized increases in blood flow.²³ (This *same* increase is seen in non-human animals.) Thoughts seem to be intimately related to neuronal health and activity.

The most popular gradations of consciousness for use at the bedside are based on a rostral-caudal progression from cortex to medulla. There are reliable pupillary, labyrinthine and respiratory signs to correlate with deterioration in each section. There is no special membrane potential or circuitry precisely related to consciousness, but no one disputes the observation that consciousness ebbs as impairment moves caudally through the brain stem. "Locked-in" patients — those with severe transections in the rostral pons or midbrain — demonstrate that the degree of consciousness sustained by the intact medulla and caudal pons can only be rudimentary.²⁴

DUALITY OF CONSCIOUSNESS

Mind-brain dualists recognize an association between thoughts and consciousness and healthy brains, but are skeptical that thoughts can only be produced by neurophysiologic change. This is a reasonable attitude even though epileptic lesions commonly evoke stereotyped "forced thinking" in some patients, and cortical stimulation certainly may evoke complex memories. Unless the current worldly mood of political and social conservatism alters planned research, the dualists will face more and more data from human experiments — especially from centers doing stereotactic surgery — linking thoughts with regional electrophysiology. The monists (reductionists) feel that

thoughts are either directly produced by acknowledged neuronal events, or are dependent on configurations of large groups of neurons, in some way transcending the physiologic — just as neurophysiology transcends the non-Newtonian world of the subatomic particles.²⁵ The dualists, who have dominated such discussions for thousands of years, do not explain why thoughts stop when brain function stops. If the soul is to be equated with thoughts and mind then these same statements also apply to souls. There are reproducible experiments — experiments where particular information seems to be available before electrical recording has shown signs of an arrival. Such experiments are used to justify the need for a “non-physical supervisory system.”²⁶ MacKay suggests that there are two levels of determination, to be distinguished as would a communication engineer, with an *energetic* level based entirely on physical causality and an *informational* or thinking level. The informational, thinking, or cognitive level is also *embodied* somewhere inside the brain, making MacKay a kind of monistic dualist.

THE FRONTAL LOBES ARE MOST HUMAN

The large areas of eugranular frontal cortex kindle the speculation that we may yet find a neurologic Rosetta stone that will show us what kind of experimental concepts are needed to clarify brain-mind controversies. Although frontal lobes are well-developed in all of our readers the essence of humanness is not likely to be frontal.²⁷ Frontal lobe surgery theoretically makes schizophrenics more like human beings but not soul-less.

HYPOTHALAMIC NUCLEI?

This may be the strangest important region in the brain and may yet hide some metaphysical surprise. Nevertheless, many of its functions are now reproducible by injectable extracts, e.g., pitressin, thyrotropin, so that a highly civilized life is still possible with severe hypothalamic and pituitary damage.

In summary:

1. The soul is a multiracial, time-

honored, enigmatic concept related to worthiness and applied, with rare exceptions, only to human beings. Souls are supposed to be present in nearly all healthy human beings, and in no animals.

2. In demented, psychotic, “locked-in,” demyelinated, and dead (“permanently idle”) people, the soul *may* be present depending on the current teachings of the religion involved.

3. All aspects of the patient’s soul, e.g., existence, presence and nearness, are specified by the patient’s theology. There is *no* scientific evidence to support the idea that an inactive deteriorating human brain maintains a special substance for a religion-specific length of time. The exact moment of death is no longer critically important at least to Western theologians.

4. There is no obvious “silent” brain region which, when extirpated, leaves a soul-less specimen in left-handers or right-handers.

5. Collections from the accelerating varieties of neurologic research suggest that most brain regions have dedicated functions. There are no unsampled neurologic kernels of mysterious texture. So-called association areas contain familiar-looking neurons, ubiquitous transmitters, and stereotyped myelin fractions.

6. There is no remaining region of the modern brain comparable to the pristine glob which puzzled thoughtful people from the 18th century back to the dawn of metaphysics.

7. Souls have been associated with language communication and consciousness, but there are no scientific reports describing patients who were declared soul-less prior to death. Further, a sincere but premature declaration of death would in no way jeopardize the soul — in the majority of Americans and Carolinians who practice the most popular religions.

8. There is excellent evidence suggesting that the mind is inseparable from neuron activity and from consciousness. Most scientists believe that the mind can be entirely explained by brain activity, but there are still some outspoken,

highly respected dualists. There is, however, no scientific evidence to correlate mind and soul; such correlations are only philosophic and theologic.

9. From a clinical viewpoint the management of a moribund patient should depend upon repeated evaluations of consciousness and communication, and upon the local medical and legal criteria for determining death. (“Death with dignity” laws understandably avoid definitions of human beings and do not use the word *soul*. North Carolina legislators thought the strange word *sapient* was best to describe residual qualities worthy of continued desperation treatment.)

10. This viewpoint should allow North Carolina physicians with any religious background to treat consenting members of any religious faith without guidance from the Health System Agencies or other regulators.

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SPECIAL ARTICLE

Joint Patient Care: Which Physician(s) Should Be Paid — And For What?

Phillip A. Sellers, M.D.*

ABSTRACT The North Carolina Society of Internal Medicine and Prudential-North Carolina Medicare have agreed on common guidelines for justified patient care when two physicians are seeing a hospitalized patient at the same time. Physician and third-party-payer administration of this sometimes difficult area of medical payment will, hopefully, be improved by use of these guidelines.

INTRODUCTION

WHEN two (or more) physicians care for a hospitalized patient at the same time, payment by third parties is often a problem.

As medical care has become more complex, with more primary physicians, more specialists and more subspecialists, patient care responsibility and what justifies reasonable and necessary physician care become more difficult to define.

All those involved — physicians, third-party carriers, and patients — are interested in payment for medical care but view the care from their own perspectives. Physicians generally assume that whatever medical care they give is indicated and

should be covered by insurance. However, when two or more physicians are caring for a patient jointly, too much *or* too little care can be given. At times, basic patient responsibility is ill defined and communication among physicians is inadequate.

Third-party payers pay only those bills which are justified and documented and are not for duplicated services. When they receive multiple physicians' bills they frequently have difficulty in knowing if the bill, as well as the amount, is justified. Medicare in North Carolina receives approximately 40 claims a day in which there is a problem in concurrent care. The charts of 5%-10% of all patient discharges from some hospitals are obtained by third parties to check on the need for the billed care. Lack of documentation and poor legibility of notations complicate the process. These result in delayed insurance payments and increased insurance costs.

Patients are frequently the real financial losers. They are confused, and occasionally angered, by the lack of payment by third parties of what they thought was indicated medical care (and therefore covered by insurance). Often they have little or poor understanding of the real

terms of their insurance coverage.

In 1970 the North Carolina Medical Society adopted a brief policy statement on concurrent care:

- 1) The primary attending physician is the one who admits, attends and discharges the patient. He remains the primary physician until or unless care is transferred to another physician and this transfer is documented by written order on the chart.
- 2) The consultant should be compensated generally on the basis of consultation services in cases involving nonsurgical care when the scope of his services falls within the scope of services usually rendered by the primary physician.
- 3) The committee recognizes that complex or unusual problems even within the scope of such similar services may entitle the consultant to additional and/or unusual payment.

This statement is adequate for many situations but does not address many of the complex problems that frequently occur in current medical practice.

Recently the North Carolina Society of Internal Medicine has been working with Prudential, carrier for

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Medicare in North Carolina, in an effort to better define "reasonable charges" when two or more physicians see a patient at the same time. The views of the society's Executive Committee and those of Prudential are similar.

Current terminology is confusing and at times inadequate. "Consultation" traditionally implies a single evaluation with recommendations. "Concurrent Care" implies continuing care of a patient by two or more physicians. Frequently the care given is both "consultative" and "concurrent." Third-party payers frequently receive claims for consultative and concurrent care on the same form. Therefore, for simplification, when two or more physicians render care to a patient at the same time, the term "Joint Care" may be better.

GUIDELINES

In order to improve physician understanding and handling of the problems involved, as well as improving patient and physician reimbursement, the following guidelines for joint medical care are suggested and three general areas defined:

- I. Separate Medical Conditions — Patients who are being seen by more than one physician, each physician caring for a separate medical problem.
- II. Single Medical Condition — Patients being seen by more than one physician for the same medical problem.
- III. Primary Responsibility for patient care.

Examples of what are included and excluded in reasonable and justified medical care are listed for further clarification.

I. Separate Medical Conditions

If a patient has a condition requiring care by another physician(s) at the same time, the physician(s) should not be of the same or similar specialty and the patient should require treatment for a condition unique to and within the scope or skills of each physician.

Included:

1. Documentation on the pa-

tient's chart of the need for each physician's unique care by means of a consult note and pertinent progress notes.

2. Intermittent observations by the primary care physician of his patient being treated by another physician for a single, more complex illness (i.e. cardiologist treating patient with infarction and shock) but limited to an occasional visit (possibly one per week).
3. Intermittent observation by a second physician of a patient who has an additionally potentially threatening but *stable* diagnosis (i.e. emphysema, diabetes). Visits should be limited (possibly two per week).
4. Intermittent observation by a second physician of a patient being treated by another physician who has another "active" diagnosis or therapy requiring *periodic* treatment (i.e. congestive heart failure, anti-coagulant treatment). Visits should be periodic (possibly three per week).
5. If an *acute* incident (i.e. urinary tract infection, pulmonary embolus) occurs during a hospitalization requiring a second physician or unique expertise, he may see the patient on a daily basis (possibly seven consecutive days).
6. If the limits set in statements 2, 3, 4 and 5 above, are exceeded, documentation justifying need for physician's continued care should be made.

Excluded:

1. Social calls not representing significant care (i.e. primary physician visiting patient with routine T & A, hernia repair, etc.).
2. Patient care which has not been documented or justified.
3. Patient care which exceeds minimum standards and is not documented by special reports (See "Included I-6" above.)
4. Duplication of care by physicians of the same specialty or skill.

II. Single Medical Condition

If a patient is critically ill or has a therapeutic or diagnostic problem, consultative care and follow-up by one or more physicians may be indicated.

Included:

1. Documentation by written consultation note and subsequent progress notes indicating the need for joint care.
2. Care by two different specialists for the same diagnosis or procedure when both specialists' unique skills are indicated (i.e. cardiologist and surgeon for patient with coronary artery disease).
3. Second opinion consultation prior to a major surgical procedure of equivocal surgical indication.

Excluded:

1. Consultation for insignificant medical problems (i.e. pre-operative medical consult on "all" patients having major surgery who have no evidence of significant medical disease).
2. Consultation to provide coverage (i.e. primary physician to be unavailable).
3. Consultation without adequate chart documentation.
4. Consultation for "interesting medical finding" but without potential benefit to patient's care.

III. Primary Responsibility

One physician should be responsible for the overall care of a patient. Initially this should be the admitting physician. If this primary responsibility is changed, a dated transfer order indicating the physician to whom the patient is transferred should be written on the chart.

Included:

1. A primary physician admitting a patient with a specific problem (i.e. abdominal pain, chest pain) with subsequent need of a specialist (i.e. surgeon, cardiologist). The patient should be transferred to the specialist at the time the specialist assumes responsibility for the

patient (i.e. surgery, myocardial infarction with shock).

2. A clear statement on each patient's chart as to which physician has primary responsibility if it is someone other than the admitting physician. Even though specialists are caring for the patient, one specialist should be designated for primary responsibility.

Excluded:

1. A primary physician admitting his patient for *routine* surgery (i.e. hernia repair, breast bi-

opsy), performing a history and physical, and making daily visits in addition to the surgeon giving *his* usual surgical care, both pre-operatively and postoperatively. (Here the surgeon should assume all responsibility.)

2. Two physicians of the same skill or specialty, both assuming primary responsibility for the same patient problem or diagnosis.

CONCLUSION

Joint physician care of hospital-

ized patients will continue to be a problem in certain situations. However, by better communication and application of these concepts the problems can be minimized. Documentation of need for care, the care given, and establishment of primary responsibility for care are all important.

If these guidelines are followed with all patient care, the physicians' pay will be more equitable, the insurance costs will be less and payment quicker, and the patient will be better cared for, and perhaps even less frustrated financially.

Aortic Stenosis

Strong action of the left ventricle; extremely loud and musical murmur at the extent of the arterial tree; the heart's action generally regular. — I have witnessed two or three cases of this combination. The phenomena arise from extensive ossific disease of the aortic opening, which is rendered not only rigid, but singularly irregular, from the deposit of great quantities of earthly matter in the form of intersecting and irregular plates, stretching downwards into the ventricle, as well as into the aorta, for an inch above the sinuses. In one of these cases the appearance of the opening might be aptly compared to that of the mouth of a shark in miniature; all traces of the valves had disappeared.

In these cases every superficial artery emitted a most distinct musical tone at each pulsation: the radial artery at the wrist, the palmar arteries, the ramifications of the temporal arteries, the anterior tibial, and the branches on the dorsum of the foot, all exhibit the same phenomenon. In two cases the sounds were distinctly audible to the patients, who were conscious of their existence at almost every point of the body. With one patient the perception of these sounds was the principal cause of his suffering, for his general health long continued excellent, and the heart's action was but little excited. This gentleman once observed to me, *that his entire body was one humming-top*. The loudness of the tone varied with the force of the heart. When I first saw him the sounds were audible at the distance of at least three feet; but when the force of the heart had been reduced by local treatment, the use of sedatives, and by removing all causes of bodily and mental excitement, the loudness of the sound at the aortic orifice was so much reduced as to render it inaudible, unless by applying the ear.

.....
Dissection in this case showed but little disease in the aorta from about two inches above the orifice; the descending aorta and the arch were healthy; the left ventricle was hypertrophied and dilated; the general arterial system exhibited no disease.

Under such circumstances we may safely make the diagnosis of extensive and irregular ossification of the aortic orifice, with contraction, if the pulse be small and hard and without contraction, if its ordinary volume be preserved. — William Stokes, 1854.

Hydrocarbon Ingestion

Ingestion of petroleum distillates by preschool children is extremely common and according to one recent survey is the second most common cause of hospital admission for accidental childhood poisoning (aspirin is first).

Three classes of hydrocarbons are involved in childhood poisoning: (1) aromatic hydrocarbons, e.g., benzene, xylene, toluene; (2) terpenes, e.g., turpentine, pine oil products; and (3) aliphatic hydrocarbons, e.g., gasoline, kerosene, lighter fluid, solvents, thinners and furniture polish containing mineral seal oil. Mineral seal oil, found in such oil furniture polishes as Old English, is now the most commonly ingested hydrocarbon in preschool children (replacing kerosene) and is probably the most dangerous in its class. This discussion will be limited to aliphatic hydrocarbons.

The major organs affected by aliphatic hydrocarbons are the lungs, the gastrointestinal tract and the central nervous system. We are primarily concerned with hydrocarbon pneumonia because it is the one practitioners confront most commonly and because it is the major cause of death from this poisoning. Hydrocarbon pneumonia is related to the act of swallowing the petroleum distillates, which, because of their low viscosity "creep" over the pharyngeal and glottic surfaces to enter the tracheobronchial tree where they probably interfere with pulmonary surfactant and produce hydrocarbon pneumonitis. The CNS effects are probably secondary to the chemical pneumonia and hypoxia.

Clinical features include gasping, choking, coughing, grunting (due to surfactant loss?), tachypnea, fever and leukocytosis (the latter two features are not related to infection but to a foreign body reaction). The odor of the hydrocarbon on the child's breath and/or vom-

itus is an aid to diagnosis. The most common CNS finding is lethargy; stupor, coma and seizures are relatively rare.

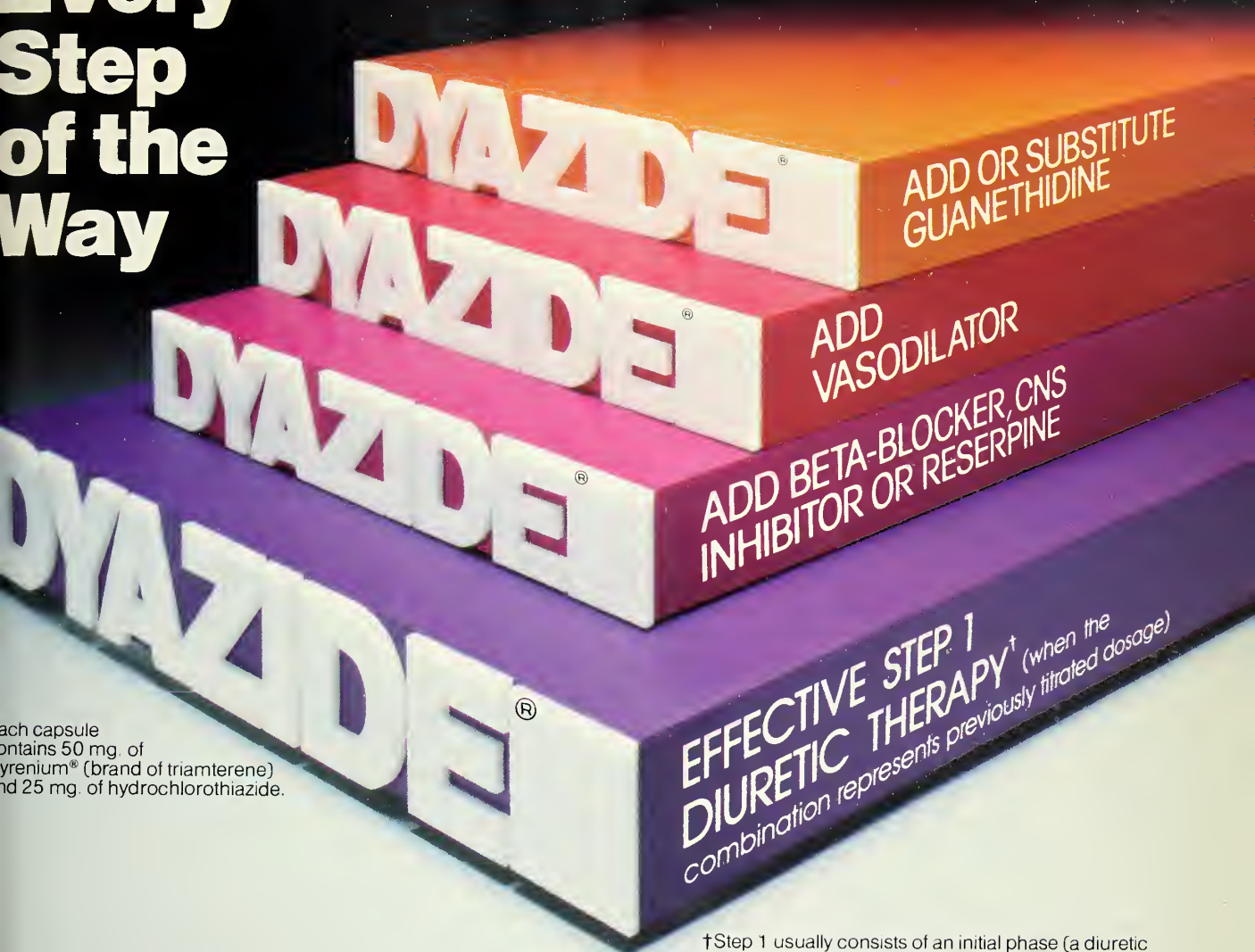
The management of a patient who has ingested a hydrocarbon remains controversial. *Gastric emptying is not advised unless the patient swallowed:* (1) a halogenated hydrocarbon, (2) an aromatic hydrocarbon, (3) terpenes, (4) any hydrocarbon containing camphor, insecticides, nitrobenzene, heavy metals, (5) an aliphatic hydrocarbon in a quantity greater than 2 ml/kg or over 100 ml in a preschool child. Most children do not swallow more than 30 ml; remember each swallow of any liquid equals 0.21 ml/kg — about 5 ml in a preschool child. If gastric emptying is required after a hydrocarbon, ipecac-induced emesis is considered safer than lavage. A 15-30 gram activated charcoal slurry should follow emesis and then a cathartic such as magnesium or sodium sulfate 250 mg/kg per dose. Emesis should not be induced if the patient is stuporous, comatose, convulsing or has a suppressed gag reflex or when mineral seal oil has been ingested. *Very few* of the preschool children seen as emergencies after having swallowed a common aliphatic hydrocarbon will require gastric emptying.

Changes in the lungs detectable by x-ray may occur within 20 minutes but usually are not visible for 6-8 hours. Antibiotics are not recommended for prophylaxis of chemical pneumonitis. Steroids are probably of no value.

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WARNING

This drug is not indicated for initial therapy of edema or hypertension. Edema or hypertension requires therapy directed to the individual. If this combination represents the dosage so determined, its use may be more convenient in patient management. Treatment of hypertension and edema is not static, but must be reevaluated as conditions in each patient warrant.

Contraindications: Further use in anuria, progressive renal hepatic dysfunction, hyperkalemia. Pre-existing elevated serum potassium. Hypersensitivity to either component or other sulfonamide-derived drugs.

Warnings: Do not use potassium supplements, dietary or otherwise, unless hypokalemia develops or dietary intake of potassium is markedly impaired. If supplementary potassium is needed, potassium tablets should not be used. Hyperkalemia can occur, and has been associated with cardiac irregularities. It is more likely in the severely ill, with renal volume less than one liter/day, the elderly and diabetics. In suspected or confirmed renal insufficiency. Periodically, serum K⁺ levels should be determined. If hyperkalemia develops, substitute a thiazide alone, restrict K⁺ intake. **Isolated widened QRS complex or arrhythmia requires prompt additional therapy.** Thiazides cross the placental barrier and appear in cord blood. Use in pregnancy requires weighing anticipated benefits against possible hazards, including fetal or neonatal jaundice, thrombocytopenia, other adverse reactions seen in adults. Thiazides appear and tri-

amterene may appear in breast milk. If their use is essential, the patient should stop nursing. Adequate information on use in children is not available. Sensitivity reactions may occur in patients with or without a history of allergy or bronchial asthma. Possible exacerbation or activation of systemic lupus erythematosus has been reported with thiazide diuretics.

Precautions: Do periodic serum electrolyte determinations (particularly important in patients vomiting excessively or receiving parenteral fluids). Periodic BUN and serum creatinine determinations should be made, especially in the elderly, diabetics or those with suspected or confirmed renal insufficiency. Watch for signs of impending coma in severe liver disease. If spironolactone is used concomitantly, determine serum K⁺ frequently, both can cause K⁺ retention and elevated serum K⁺. Two deaths have been reported with such concomitant therapy (in one, recommended dosage was exceeded; in the other serum electrolytes were not properly monitored). Observe regularly for possible blood dyscrasias, liver damage, other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving triamterene, and leukopenia, thrombocytopenia, agranulocytosis and aplastic anemia have been reported with thiazides. Triamterene is a weak folic acid antagonist. Do periodic blood studies in cirrhotics with splenomegaly. Antihypertensive effects may be enhanced in post-sympathectomy patients. Use cautiously in surgical patients. The following may occur: transient elevated BUN or creatinine or both, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), hyperuricemia and gout, digitalis intoxication (in hypokalemia), decreasing alkali reserve with possible metabolic acidosis. 'Dyazide' interferes with fluorescent measurement of quinidine. Hypokalemia, although uncommon, has been reported. Corrective measures should be instituted

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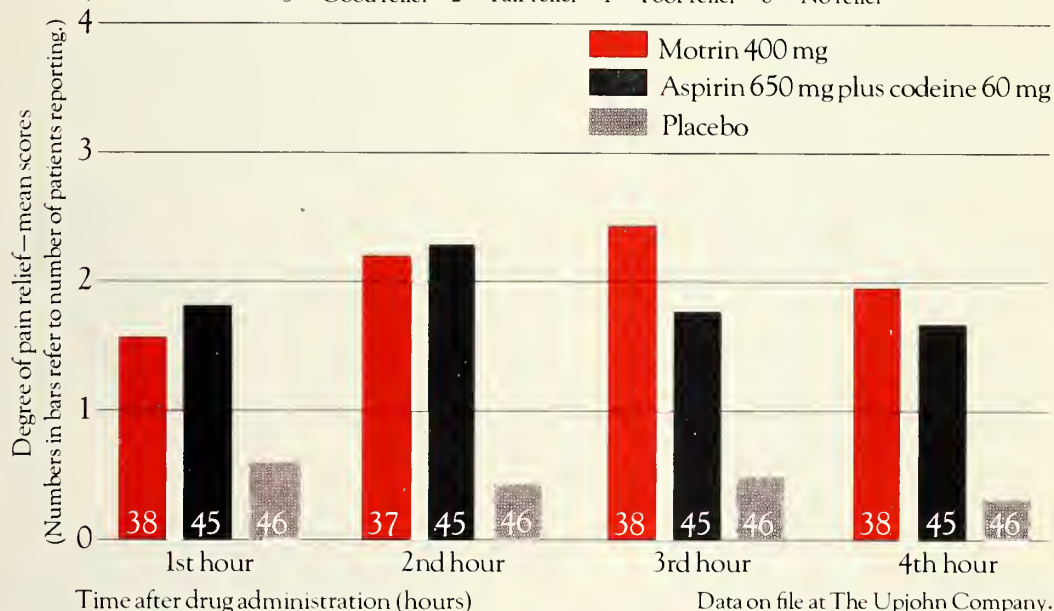
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Indications and Usage: Relief of mild to moderate pain.

Treatment of signs and symptoms of rheumatoid arthritis and osteoarthritis during acute flares and in long-term management. Safety and efficacy have not been established in Functional Class IV rheumatoid arthritis.

Contraindications: Individuals hypersensitive to it, or with the syndrome of nasal polyps, angioedema and bronchospastic reactivity to aspirin or other nonsteroidal anti-inflammatory agents (see WARNINGS).

Warnings: Anaphylactoid reactions have occurred in patients with aspirin hypersensitivity (see CONTRAINDICATIONS).

Peptic ulceration and gastrointestinal bleeding, sometimes severe, have been reported. Ulceration, perforation, and bleeding may end fatally. An association has not been established. Motrin should be given under close supervision to patients with a history of upper gastrointestinal tract disease, only after consulting ADVERSE REACTIONS.

In patients with active peptic ulcer and active rheumatoid arthritis, nonulcerogenic drugs, such as gold, should be tried. If Motrin must be given, the patient should be under close supervision for signs of ulcer perforation or gastrointestinal bleeding.

Precautions: Blurred and/or diminished vision, scotomata, and/or changes in color vision have been reported. If these develop, discontinue Motrin and the patient should have an ophthalmologic examination, including central visual fields.

Fluid retention and edema have been associated with Motrin; use with caution in patients with a history of cardiac decompensation.

Motrin can inhibit platelet aggregation and prolong bleeding time. Use with caution in persons with intrinsic coagulation defects and those on anticoagulant therapy.

Patients should report signs or symptoms of gastrointestinal ulceration or bleeding, blurred vision or other eye symptoms, skin rash, weight gain, or edema.

To avoid exacerbation of disease or adrenal insufficiency, patients on prolonged corticosteroid therapy should have therapy tapered slowly when Motrin is added.

Drug interactions. *Aspirin:* Used concomitantly may decrease Motrin blood levels.

Coumarin: Bleeding has been reported in patients taking Motrin and coumarin.

Pregnancy and nursing mothers: Motrin should not be taken during pregnancy nor by nursing mothers.

Adverse Reactions

Incidence greater than 1%

Gastrointestinal: The most frequent type of adverse reaction occurring with Motrin is gastrointestinal (4% to 16%). This includes nausea,^{*} epigastric pain,^{*} heartburn,^{*} diarrhea, abdominal distress, nausea and vomiting, indigestion, constipation, abdominal cramps or pain, fullness of the GI tract (bloating and flatulence). **Central Nervous System:** Dizziness,^{*} headache, nervousness. **Dermatologic:** Rash^{*} (including maculopapular type), pruritus. **Special Senses:** Tinnitus. **Metabolic:** Decreased appetite, edema, fluid retention. Fluid retention generally responds promptly to drug discontinuation (see PRECAUTIONS).

^{*}Incidence 3% to 9%.

Incidence less than 1 in 100

Gastrointestinal: Upper GI ulcer with bleeding and/or perforation, hemorrhage, melena.

Central Nervous System: Depression, insomnia. **Dermatologic:** Vesiculobullous eruptions, urticaria, erythema multiforme. **Cardiovascular:** Congestive heart failure in patients with marginal cardiac function, elevated blood pressure. **Special Senses:** Amblyopia (see PRECAUTIONS). **Hematologic:** Leukopenia, decreased hemoglobin and hematocrit.

Causal relationship unknown

Gastrointestinal: Hepatitis, jaundice, abnormal liver function. **Central Nervous System:** Paresthesias, hallucinations, dream abnormalities. **Dermatologic:** Alopecia, Stevens-Johnson syndrome. **Special Senses:** Conjunctivitis, diplopia, optic neuritis. **Hematologic:** Hemolytic anemia, thrombocytopenia, granulocytopenia, bleeding episodes. **Allergic:** Fever, serum sickness, lupus erythematosus syndrome. **Endocrine:** Gynecomastia, hypoglycemia. **Cardiovascular:** Arrhythmias. **Renal:** Decreased creatinine clearance, polyuria, azotemia.

Overdosage: In cases of acute overdosage, the stomach should be emptied. The drug is acidic and excreted in the urine, so alkaline diuresis may be beneficial.

Dosage and Administration: Rheumatoid arthritis and osteoarthritis, including flares of chronic disease: Suggested dosage is 300, 400, or 600 mg t.i.d. or q.i.d. Mild to moderate pain: 400 mg every 4 to 6 hours as necessary for relief of pain.

Do not exceed 2400 mg per day.

Caution: Federal law prohibits dispensing without prescription.

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MED B-4-S

NORTH CAROLINA MEDICAL CURIOSITIES

The Two-Headed Girl

Chang and Eng, the Siamese twins, were already well known figures in show business when Millie and Christine were born in Columbus County, North Carolina, on July 11, 1851. Like their parents, they were slaves belonging to a man named McCoy. Their mother, a woman of 32, had a large pelvis. The twins reportedly weighed 17 lbs., but the birth was not a difficult one. The little girls were joined together at the base of the spine so that the buttocks of one pressed against those of the other. They possessed a common anus and a common vulva. The bodies were not exactly parallel — one inclined slightly to the left and the other to the right. Their hearts were on opposite sides of their bodies and below the point of juncture they had a common nervous system. Otherwise, they were complete, symmetrical, separate individuals — each with two arms and two legs. Shortly after they were born, they and their parents were sold, and after several other transfers, they were separated from their family. They were eventually bought by J. P. Smith, who reportedly paid \$30,000 for them since their value as a natural curiosity was recognized. He also bought the rest of the family and reunited them.

He took the young girls on a tour of the Gulf states and advertised them as the "North Carolina Twins" or "The Double-Headed Girl." In New Orleans, they were kidnapped but after several months Smith found the children in England and reunited them with their mother. From Smith's wife, their "white ma," they learned to read and write as well as to sing and dance. The children were becoming full-fledged performers.

During the Civil War, Smith died, leaving his widow in strained circumstances. Legally, the girls were free to go on their own way, but they felt a deep loyalty to the Smith family and with Mrs. Smith as their guardian they returned to the exhibition circuit. They had good voices and were sometimes billed as the "Two-Headed Nightingale." One was a soprano and the other a contralto. They sang popular songs, accompanying themselves on guitars. They spent many years in P. T. Barnum's Museum, as well as taking trips to Europe in 1873 and 1885. They were well received by Queen Victoria.

In the early 1900s, Millie and Christine retired to Columbus County, where they lived with their parents and 14 brothers and sisters. They moved into a 10-room house, which they filled with treasures and souvenirs from the theater. Many visitors called on them. The twins had good hearts and gained a wide reputation for their charitable acts.

In 1909 their home burned and they moved into a six-room cottage. In October of 1912 Millie died of

tuberculosis. Christine knew at once what had happened and she died 17 hours later. The sisters were buried in a churchyard not far away, with the engraving on their tombstone: "A soul with two thoughts, two hearts that beat as one."

E. WAYNE MASSEY, M.D.
Assistant Professor
Division of Neurology
Duke University Medical Center
Durham, N.C. 27710

PHOTOGRAPHIC REVIEW OF MEDICINE AND SURGERY.



Double headed girl.

acquired according to Act of Congress of this year 1891 by the Library of Congress from the office of the Librarian of Congress at Washington

PLATE XVII.

THE CAROLINA TWINS

Courtesy of Duke University History of Medicine Library.
Millie and Christine

Editorials

ABOUT WOMEN AND WOMEN IN MEDICINE

The American Psychiatric Association of late has been muchly concerned about where it will hold its annual meetings. One wing of that body, holding that the passage of the Equal Rights Amendment would be psychotherapeutic for the body politic, wants to deny states whose legislators have not supported ERA the privilege of hosting them, while another is not so sure. Perhaps such states really won't realize they are being punished if the association meets elsewhere.

There is much to be said for both sides in the battle between men and women, but the NORTH CAROLINA MEDICAL JOURNAL is certainly not the place to say it all. A few comments may be in order, however, particularly when we live in a bastion of the old confederacy and a stronghold of the purest flowers of Southern womanhood. A number of Southern belles had been reported to be opposed to ERA because "we will lose so many of our hard earned gains." They, of course, must be aware that the law, though color-blind, is in some places and about some matters not sex blind and they have probably taken pains to establish and maintain equality in their own households.

Honest ministers have been aware for years, and have at times been willing to confess, that the ladies run the church. But Kinder, Küche and Kirche are really not enough anymore. Women live longer, are better at detail, are more even-tempered, know more about raising children and even own more stock in this country than men. Little wonder then that the ladies have moved into medicine. It remains to be seen what criteria they will establish about meeting places after they have entered our professional societies in large numbers. About 25% of applicants for admission to medical school these days are female and so are the students in our state's four medical schools.

The process of liberation of women has been biological, legislative and economic. As infant mortality drops, women no longer worn out by child-bearing live longer. It used to be said that a man had to have three wives, one to birth his children, the second to raise them and the third to bury him. If our times seem grim with atoms and deficits, those days must have been much worse. In a few places on our earth society has had a few moments of relief from biological necessity so that both men and women have been afforded opportunities unimaginable in ancient days. All too often this freedom has not been appreciated and the bright promise of new discovery dimmed by fear, malice and forgetfulness. But women

remember a lot of things that men should but don't. And their movement into medicine should be a blessing to us all.

J.H.F.

WHERE IS THE HORN OF THE UNICORN?

During World War II the allies assured themselves and the citizens of occupied nations that with peace the four freedoms would be restored and maintained. Now nearly four decades later we are far from establishing those four freedoms as the citizens of Poland have so dramatically demonstrated. But we have managed to establish, at least in the English speaking world, a fifth freedom, the liberty to treat ourselves for anything with anything in any way we desire. Perhaps this phenomenon has always existed unknown to physicians. Or perhaps the technologic and therapeutic advances of modern times have brought such a depersonalization that some people have sought medical alternatives in ancient remedies and the even more ancient metaphors of magic. We have seen almost cultic devotion to Laetrile, a mystic belief in natural vitamins and a movement toward a holistic therapy which shares some traits with a Children's Crusade directed by a cadre of Peter Pans. The late Euell Gibbons told us of the almost lost therapeutic value of a whole host of denizens of the woods, fields and streams and extolled Grape Nuts as a remarkably efficacious remedy for aberrations of the appetite. So we seem to be returning to the polypharmacy abandoned by physicians and an anathema to the FDA and may well find herbalists seeking payment through Medicare and Medicaid if this sort of thing continues.

Take mistletoe, parasitic on the branches of trees in the South, Middle Atlantic and Pacific Coast, and hung at Christmas to encourage freer communication between the sexes. Or take mistletoe if you can find it. Most of it is now plastic, and like plastic available the year round along with non-dairy creamer, synthetic sweetener and decaffeinated coffee. It is less easily available because herbalists are selling preparations containing it. It was certainly held in high respect in prehistoric times, particularly by the Druids, those mysterious Britons said to be responsible for Stonehenge, who thought it effective as an antidote for poisons, as an aid to fertility and as an aphrodisiac. Presumably its role at Christmas and at Christmas parties in particular has something to do with the last.

In England, land of the Druids, a drug containing mistletoe extract was listed as recently as 1978 in a

formulary and Harvey and Colin-Jones¹ have recently reported a middle-aged housewife who exercised her fifth freedom on at least two occasions by taking an herbal preparation containing motherwort, kelp (much beloved for its iodine), wild lettuce, skullcap and mistletoe. For her trouble she suffered bouts of mistletoe hepatitis attributed to toxins contained in the plant.

It is ironic that these liberty-loving experimentalists should come out from under rocks in such numbers when other consumers are demanding more stringent regulation of medical practice and such prolonged screening of drugs that the Food and Drug Administration appears to look quite unkindly on new prepa-

rations. While the FDA dawdles, holistic practitioners and pursuers of alternative systems of healing offer such remedies as "false unicorn," and red raspberry leaf tea for problems of health.² If memory serves, the unicorn was a marvelous medieval beast which could be caught only by a young virgin and its horn was said to be singularly effective against poisons. Unfortunately, the unicorn has not survived the scientific revolution and no horns are available to protect the new experimentalists.

J.H.F.

References

1. Harvey J, Colin-Jones DG: Mistletoe hepatitis. Br Med J 282:186-187, 1981.
2. Henry S: Red raspberry leaf medicine? It's all part of "natural" healing. Can Med Assoc J 120:728-730, 1979.

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Tips on Submitting Health Insurance Claims

BY: Department of Practice Management
Division of Medical Practice
American Medical Association

Whether or not you like it, the completion of claim forms is a part of the everyday practice of medicine. When a claim form is properly completed, it usually means that you or your patients will get paid quickly. Claims that aren't paid or that are paid slowly aren't always the fault of the insurance carriers — surprising as that may seem.

Here are four tips to assist you in your relationship with the health insurance industry.

1. MAKE THEM READABLE:

Frequently, claims are submitted with illegible information. You and your medical assistant may be familiar with each other's handwriting, but, a claims examiner who reviews many different physicians' handwriting may have difficulty deciphering the message. If that's the case, several things can happen. The examiner may contact your office by phone or mail asking for an explanation or clarification, which causes an unnecessary interruption. Or, the claims examiner may make an assumption about what was reported, which may result in under- or over-payment, which creates a bookkeeping problem. The solution? Submit a legible claim the first time, preferably typewritten.

2. LIST SYMPTOMS, AS WELL AS A DIAGNOSIS: Without a complete diagnosis, don't expect to be paid. And be sure to include a description of the relevant symptoms. Insurance carriers base their payments on medical

necessity, and there tends to be correlation between the services reported and diagnoses. But in some cases your final diagnosis may not be related to the service or services you performed. By reporting the symptoms, as well as the patient's initial complaint along with the final diagnosis, the claims examiner can equate the two with the service. When everything fits together, you get paid.

3. TALK THE SAME LANGUAGE: This means you and the carrier must use the same terminology. There are several medical terminologies in use: AMA's CPT, Blue Shield, and California RVS to name a few. You should be aware of, and use the terminology most often used in your area. When you and the carriers speak the same language, claims will be paid quickly and accurately.

4. BE SURE YOUR REPORT IS COMPLETE: Report each service performed separately with your individual charge for each.

Here's an example: if you gave a patient 10 days of in-hospital medical care, break your services down to show, for instance, that one was an extended visit; four were intermediate visits, and five visits were brief visits. Proper reporting using AMA's CPT would be:

| | | |
|--------------|------------------------------------|---------------------------|
| 10/1/77 | 90270 One (1) extended visit | @ \$_____ — total \$_____ |
| 10/2/77 thru | 90260 Four (4) intermediate visits | |
| 10/5/77 | @ \$_____ — total \$_____ | |
| 10/6/77 thru | 90240 Five (5) brief visits | |
| 10/10/77 | @ \$_____ — total \$_____ | |

Remember that good communication through properly completed claim forms assists both you, your patients, and the carrier. And, of course, there's no substitute for knowledgeable staff people. If your claims are delayed because of "people problems" rather than "paper problems," call the carrier and ask when their next training session will be held or have a professional relations representative visit your office.

A uniform claim form is required in North Carolina for Medicaid claims identified as HCFA-1500 which is the AMA-approved form and is also acceptable for Medicare, CHAMPUS and many other health insurers including Blue Cross & Blue Shield. A sample of the North Carolina form is depicted below.

| HEALTH INSURANCE CLAIM FORM | | | | MAIL TO | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|--|---|--|---|--|--|--|--|--|-----------------|--|-------------------------------|--|-----------------------------|--|----------------|--|--|--|---------------------------|--|----------------|--|--|--|--|--|--|--|
| READ INSTRUCTIONS BEFORE COMPLETING OR SIGNING THIS FORM | | | | EDS FEDERAL CORPORATION P.O. BOX 30968 RALEIGH, NC 27622 | | | | | | | | | | | | | | | | | | | | | | | | | |
| <input type="checkbox"/> MEDICARE <input type="checkbox"/> MEDICAID <input type="checkbox"/> OTHER | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PATIENT & INSURED (SUBSCRIBER) INFORMATION | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 PATIENT'S NAME (First name, middle initial, last name) | | 2 PATIENT'S DATE OF BIRTH | | 3 INSURED'S NAME (First name, middle initial, last name) | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 PATIENT'S ADDRESS (Street, city, state, ZIP code) | | 5 PATIENT'S SEX MALE <input type="checkbox"/> FEMALE <input type="checkbox"/> | | 6 INSURED'S ID MEDICARE AND/OR MEDICAID NO. (Include any letters) | | | | | | | | | | | | | | | | | | | | | | | | | |
| TELEPHONE NO. | | 7 PATIENT'S RELATION TO INSURED SELF <input type="checkbox"/> SPOUSE <input type="checkbox"/> CHILD <input type="checkbox"/> OTHER <input type="checkbox"/> | | 8 INSURED'S GROUP NO. (Or Group Name) | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 OTHER HEALTH INSURANCE COVERAGE - Enter Name of Policyholder and Plan Name and Address and Policy or Medical Assistance Number | | 10 WAS CONDITION RELATED TO: A. ON THE JOB INJURY <input type="checkbox"/> YES <input type="checkbox"/> NO B. ACCIDENTAL INJURY <input type="checkbox"/> YES <input type="checkbox"/> NO C. AUTO ACCIDENT <input type="checkbox"/> YES <input type="checkbox"/> NO | | 11 INSURED'S ADDRESS (Street, city, state, ZIP code) | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 PATIENT'S OR AUTHORIZED PERSON'S SIGNATURE (Read back before signing) I authorize the Release of any Medical Information Necessary to Process the Claim and Request Payment of MEDICARE Benefits Either to Myself or to the Party Who Accepts Assignment Below SIGNED _____ DATE _____ | | | | 13 I AUTHORIZE PAYMENT OF MEDICAL BENEFITS TO UNDERSIGNED PHYSICIAN OR SUPPLIER FOR SERVICE DESCRIBED BELOW SIGNED (Insured or Authorized Person) _____ | | | | | | | | | | | | | | | | | | | | | | | | | |
| PHYSICIAN OR SUPPLIER INFORMATION | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 14 DATE OF ILLNESS (FIRST SYMPTOM) OR INJURY (ACCIDENT) OR PREGNANCY (LMP) | | 15 DATE FIRST CONSULTED YOU FOR THIS CONDITION | | 16 HAS PATIENT EVER HAD SAME OR SIMILAR SYMPTOMS? YES <input type="checkbox"/> NO <input type="checkbox"/> | | | | | | | | | | | | | | | | | | | | | | | | | |
| 17 DATE PATIENT ABLE TO RETURN TO WORK | | 18 DATES OF TOTAL DISABILITY FROM _____ THROUGH _____ | | DATES OF PARTIAL DISABILITY FROM _____ THROUGH _____ | | | | | | | | | | | | | | | | | | | | | | | | | |
| 19 NAME OF REFERRING PHYSICIAN OR OTHER SOURCE (e.g., public health agency) | | 10 NUMBER | | 20 FOR SERVICES RELATED TO HOSPITALIZATION GIVE HOSPITALIZATION DATES FROM _____ DISCHARGED _____ | | | | | | | | | | | | | | | | | | | | | | | | | |
| 21 NAME & ADDRESS OF FACILITY WHERE SERVICES RENDERED (If other than home or office) | | 22 WAS LABORATORY WORK PERFORMED OUTSIDE YOUR OFFICE? YES <input type="checkbox"/> NO <input type="checkbox"/> | | CHARGES | | | | | | | | | | | | | | | | | | | | | | | | | |
| 23 DIAGNOSIS OR NATURE OF ILLNESS OR INJURY - RELATE DIAGNOSIS TO PROCEDURE IN COLUMN D BY REFERENCE NUMBERS 1, 2, 3, ETC. OR DX CODE A 1 _____ 2 _____ 3 _____ 4 _____ | | | | B EPSUT YES <input type="checkbox"/> NO <input type="checkbox"/> FAMILY PLANNING YES <input type="checkbox"/> NO <input type="checkbox"/> PRIOR AUTHORIZATION NO _____ | | | | | | | | | | | | | | | | | | | | | | | | | |
| 24 A. DATES OF SERVICE FROM _____ TO _____ | | B * C. FULLY DESCRIBE PROCEDURES, MEDICAL SERVICES OR SUPPLIES FURNISHED FOR EACH DATE GIVEN (EXPLAIN UNUSUAL SERVICES OR CIRCUMSTANCES) | | D. DIAGNOSIS CODE | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | E. CHARGES | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | F. DAYS OR UNITS | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | G. T.O.S. | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | H. LEAVE BLANK | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="2">25 SIGNATURE OF PHYSICIAN OR SUPPLIER (I certify that the statements on the reverse apply to this bill and are made a part hereof) SIGNED _____ DATE _____</td> <td colspan="2">26 ACCEPT ASSIGNMENT (GOVERNMENT CLAIMS ONLY) (SEE BACK) YES <input type="checkbox"/> NO <input type="checkbox"/></td> <td colspan="2">27 TOTAL CHARGE</td> </tr> <tr> <td colspan="2">32 YOUR PATIENT'S ACCOUNT NO.</td> <td colspan="2">30 YOUR SOCIAL SECURITY NO.</td> <td colspan="2">28 AMOUNT PAID</td> </tr> <tr> <td colspan="2"></td> <td colspan="2">33 YOUR EMPLOYER I.D. NO.</td> <td colspan="2">29 BALANCE DUE</td> </tr> <tr> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2">31 PHYSICIAN'S OR SUPPLIER'S NAME, ADDRESS, ZIP CODE & TELEPHONE NO.</td> </tr> </table> | | | | | | 25 SIGNATURE OF PHYSICIAN OR SUPPLIER (I certify that the statements on the reverse apply to this bill and are made a part hereof) SIGNED _____ DATE _____ | | 26 ACCEPT ASSIGNMENT (GOVERNMENT CLAIMS ONLY) (SEE BACK) YES <input type="checkbox"/> NO <input type="checkbox"/> | | 27 TOTAL CHARGE | | 32 YOUR PATIENT'S ACCOUNT NO. | | 30 YOUR SOCIAL SECURITY NO. | | 28 AMOUNT PAID | | | | 33 YOUR EMPLOYER I.D. NO. | | 29 BALANCE DUE | | | | | | 31 PHYSICIAN'S OR SUPPLIER'S NAME, ADDRESS, ZIP CODE & TELEPHONE NO. | |
| 25 SIGNATURE OF PHYSICIAN OR SUPPLIER (I certify that the statements on the reverse apply to this bill and are made a part hereof) SIGNED _____ DATE _____ | | 26 ACCEPT ASSIGNMENT (GOVERNMENT CLAIMS ONLY) (SEE BACK) YES <input type="checkbox"/> NO <input type="checkbox"/> | | 27 TOTAL CHARGE | | | | | | | | | | | | | | | | | | | | | | | | | |
| 32 YOUR PATIENT'S ACCOUNT NO. | | 30 YOUR SOCIAL SECURITY NO. | | 28 AMOUNT PAID | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 33 YOUR EMPLOYER I.D. NO. | | 29 BALANCE DUE | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | 31 PHYSICIAN'S OR SUPPLIER'S NAME, ADDRESS, ZIP CODE & TELEPHONE NO. | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>* PLACE OF SERVICE AND TYPE OF SERVICE (T.O.S.) CODES ON THE BACK REMARKS (i.e. Attending Physician Name and Provider Number)</p> <p style="text-align: center;">APPROVED BY AMA COUNCIL ON MEDICAL SERVICE APPROVED BY THE HEALTH CARE FINANCING ADMINISTRATION</p> <p style="text-align: right;">FORM HCFA-1500(6-80) (NC REVISED)</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Correspondence

AMBULATORY SURGERY

To the Editor:

Your special article, "Ambulatory Surgery in North Carolina, 1980," was of particular interest to me. I am impressed with the content and conclusions of this well written paper and pleased to learn that ambulatory surgery has "now been practiced in North Carolina and in many areas of the nation for at least a decade."

The *Journal of the American Medical Association* of September 5, 1980, states that the free standing surgery concept was pioneered 10 years ago. You will be interested to note that my first textbook, *Ambulatory Proctology*, was published by Harper-Hoeber in 1946, and the second edition, same publisher, appeared in 1952. The foreword to these texts was written by Beaumont S. Cornell, editor of the *American Journal of Digestive Disease*. He stated, in part, that

"the ambulatory treatment of *any* ailment, which traditionally required rest, is an American concept and should be carried out to its limits consistent with safety. In such attempts, good judgment and sound knowledge are shown by Dr. Cantor to be the chief factors in safety." I think that we will have to set the earliest pioneering, as it relates to my work, to have begun 40 years ago rather than 10. Being retired, I do not seek patients, but rather desire to set the record straight.

Alfred J. Cantor, M.D.
Editor in Chief
American Journal of Proctology,
Gastroenterology & Colon &
Rectal Surgery
North Shore Towers 271-17V
Grand Central Parkway
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Bulletin Board

WHAT? WHEN? WHERE? In Continuing Education

Please note: 1. The Continuing Medical Education Programs at Bowman Gray, Duke, East Carolina and UNC Schools of Medicine, Dorothea Dix and Burroughs Wellcome Company are accredited by the American Medical Association. Therefore CME programs sponsored or co-sponsored by these schools automatically qualify for AMA Category I credit toward the AMA's Physician Recognition Award, and for North Carolina Medical Society Category A credit. Where AAFP credit has been requested or obtained, this also is indicated.

2. The "place" and "sponsor" are indicated for a program only when these differ from the place and source to write "for information."

May 13-14

Respiratory Care Symposium: Breath of Spring, 1981

Place: Bowman Gray School of Medicine

Fee: \$35

Credit: 9 Hours

For Information: Emery C. Miller, M.D., Assoc. Dean for Continuing Education, Bowman Gray School of Medicine

May 14-16

N.C. Chapter of American College of Surgeons

Place: Center for Continuing Education, Appalachian State

For Information: J. S. Mitchener, Jr., M.D., P.O. Box 1808, Laurinburg, N.C. 28352

May 15

"Pediatrics Day"

Place: Pitt County Memorial Hospital, Greenville

Fee: \$30

Credit: 5 hours; AMA Category I; AAFP approval requested

For Information: F. M. Simmons Patterson, M.D., Assistant Dean for Continuing Medical Education, East Carolina University School of Medicine, Greenville

May 22-24

10th Annual Pediatric Pulmonary Disease

Place: Duke University Medical Center

Fee: \$50

Credit: 12 hours

For Information: Alexander Spock, M.D., P.O. Box 2994, Duke University Medical Center, Durham, N.C. 27710

For Information (919) 774-6518

June 3

"What's New in Cardiovascular Imaging — Echo, Nuclear & CAT?"

Place: Pitt County Memorial Hospital, Greenville

Fee: \$30

Credit: 6 hours

For Information: F. M. Simmons Patterson, M.D., Assistant Dean for Continuing Medical Education, East Carolina University School of Medicine, Greenville, N.C. 27834

July 27-August 1

"Diagnostic Radiology"

Place: Atlantic Beach

Fee: \$250/\$125

For Information: Donald R. Kirks, M.D., Box 3808, Duke University Medical Center; Durham 27710

AUXILIARY TO THE NORTH CAROLINA MEDICAL SOCIETY

BOOK REVIEWS

INTRODUCTION

Several county auxiliaries have organized interest groups for stimulation and personal growth of its members. Book study groups have developed as an excellent avenue for this endeavor. Members of one of these groups will review four books which they consider to be worthwhile reading for physicians and their families. Two reviews appear in this issue and two others will appear next month.

Veatch, Robert M.: Case Studies in Medical Ethics. Cambridge, Massachusetts, Harvard University Press, 1977, 421 pages.

Hemodialysis saves lives but may necessitate choosing recipients from a pool of applicants whose number exceeds available resources. Amniocentesis gives important information concerning the status of the fetus; knowledge that a congenital defect exists places a grave responsibility on the expectant parents and their physician. Legalization of abortion raises questions concerning the rights of the unborn and ultimately demands a definition of life itself. The terminally ill are confronted with a corollary question — when does life end? And who shall decide? In various types of medical encounters, the physician must decide whether to be the advocate for the patient, the patient's family, an organization that may employ the physician, or the legal system which makes laws that sometimes are contrary to his own values.

In the past decade many new challenges to medical decision-making have arisen. Medical ethics has emerged as a branch of "applied ethics" and offers the opportunity to analyze the value systems that shape health care choices. Using the context of medical cases, Robert M. Veatch, Ph.D., Professor of Ethics at the Kennedy Institute of Ethics, Georgetown University, has written "Case Studies in Medical Ethics," a book I highly recommend to practitioners, educators and medical families.

The fundamental premise of the book, according to Dr. Veatch, is that "every medical decision has a value component." No matter how trivial the problem

may seem, every medical encounter offers alternative actions on the part of the physician and the patient. The physician may or may not prescribe antibiotics for a sore throat; the patient may or may not comply with the recommended treatment. These decisions are based on an individual's own value system — what he determines is "right or wrong."

Dr. Veatch presents 112 cases (almost all of which are based on real experiences). Following each case presentation, the author comments on the possible alternative decisions and their ramifications. Sometimes the discussion is presented from an historical perspective, sometimes in a question format (with no answers supplied), sometimes in the framework of various schools of ethical thought. The reader is prompted to identify and examine his own values. The cases are presented concisely, giving enough information to make some judgments and yet not belaboring the reader with trivial details.

"Case Studies in Medical Ethics" can be a reference source in instances of specific dilemma. For the medical family, it will give insight into the difficult ethical decisions faced by physicians in everyday medical practice.

ANITA D. TAYLOR

Camp, John: The Healer's Art: The Doctor Through History. New York, New York, Taplinger Publishing Co., Inc., 1977, 180 pages.

The basic thesis of this book is that, through history, the structure of a particular culture has determined how it views those who take care of its sick. Camp takes a brief look at different eras in terms of medicine's advance and regressions. From ancient Greece, where the art of medicine achieved the status of a science, where disease was understood to be some bodily dysfunction and not the result of the gods' displeasure, and where ethics were first formally wedded to medicine — from such a time we soon arrive in the early Christian era, where disease was the fruit of sin and medicine the instrument of the devil. Camp does not, however, confine his interest to Western medicine, but also demonstrates how the fundamental Eastern concept of the Yin and the Yang determined how the Oriental physician dealt with his patients.

While taking the reader through these various periods of medicine the author stops along the way to recount some of the outlandish treatments of the past: tobacco-smoke enemas, rectal plugs for diarrhea, the lowly potato as an aphrodisiac, and salve being

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applied to the weapon that caused the wound instead of to the wound itself.

Camp pays particular attention to the varying status and compensation of the physician throughout time. For instance, in fourteenth century China private physicians of wealthy families were paid as long as the family was well but were required to work without pay during periods of illness. No better was the lot of the seventeenth century physician who was often not paid by the gentry and nobility for his lowly service. And yet in Islam one finds the physician exalted to fantastic heights and lavishly recompensed.

Though directed at those with an interest in history, this book contains so many excursions into the odd and remarkable that it becomes enjoyable for everyone.

JEAN COOPER

News Notes from the

UNIVERSITY OF NORTH CAROLINA- CHAPEL HILL SCHOOL OF MEDICINE AND NORTH CAROLINA MEMORIAL HOSPITAL

Cancer prevention will be the focus of a new program in the schools of medicine and public health funded by a five-year \$201,120 grant awarded by the National Cancer Institute.

The schools will merge existing research and edu-

cation programs with clinical oncology programs to uncover information that will prevent adverse side-effects of treatment and improve the "quality of life" of the cancer patient.

"Prevention of adverse cancer outcomes from occupation, from failure to diagnose patients early, and from treatment is now a major concern of the National Cancer Institute," said Dr. Seth Rudnick, assistant professor of medicine and principal investigator of the grant.

Rudnick received special training in epidemiology at Yale University before coming to the University of North Carolina at Chapel Hill to accept a joint appointment in public health and medicine and to become a member of the Cancer Research Center.

"The grant will increase the awareness of preventive oncology in the clinical setting, serve to attract medical and public health students into careers in cancer prevention and serve as part of the foundation for future efforts to control cancer," Rudnick said.

Investigators will design research projects to investigate the occupational cancer risks of woodworkers in North Carolina's furniture factories and energy workers exposed to x-rays over long periods of time.

Some of the new and ongoing cancer prevention projects that will be developed over the next five years include:

- a study of patients with metastatic adenocarcinoma (a spreading glandular cancer) to try to determine the location of the original tumor;

- a study of the relationship of radiation therapy to the cause of a second cancer in cervical cancer patients;

- studies of the consequences of undertesting in the diagnostic evaluation of cancer patients and the benefits versus cost of follow-up tests in cancer patients.

Program researchers will utilize the Cancer Research Center's Cancer Data Base to retrieve information to be used in the research projects. The data base, under the direction of Dr. J. P. Browder, assistant professor of surgery, contains patient and tumor identification data on approximately 26,000 malignancies seen at North Carolina Memorial Hospital since its founding in 1952.

The program also will tie in with the Cancer Control Program, based in the Cancer Research Center, which seeks to improve clinical management of patients with breast, cervical and endometrial cancer in North Carolina.

* * *

Six years ago, Dr. Joseph Buckwalter, professor of surgery, performed the first gastric partition operation in North Carolina to reduce the size of a patient's stomach and limit the amount of food which could be held. Since then, Buckwalter and Dr. Charles Herbst, associate professor of surgery, have performed about 400 partition procedures at N.C. Memorial Hospital. They currently do about four operations a week between them, and the demand is so great that patients accepted for surgery often have to wait three or four months.



B.B. Plyler, Jr., C.L.U.



Brent Plyler, C.L.U.

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Buckwalter and Herbst stress that partition surgery is not for everyone with a weight problem. Generally they only accept patients who are at least 100 pounds over what is considered ideal, based on their height and frame. These patients are labeled "morbidly obese," because their weight poses a significant health threat.

Medical problems that often can be relieved by weight loss include high blood pressure, diabetes and arthritis.

"I've seen people confined to wheelchairs because they've gotten so heavy they can't walk without hurting their knees and ankles," Buckwalter said. "They are completely immobilized, simply because joints that were designed to carry 125 pounds are being asked to support 400 or 500 pounds. Not only are these people ruining their health, they are miserable human beings."

Herbst said the best candidates for partition surgery are reasonably healthy young adults for whom "there is a good chance of preventing or reversing medical problems before they cause irreparable damage."

"We've had diabetics who were on high doses of insulin every day and they were able to get off insulin completely after losing weight."

People whose obesity is related to a thyroid or adrenal disorder and those who have been obese for only a few years are not considered for surgery. And Herbst said that even for those who qualify, surgery is a last resort.

"It is far better to lose weight through dietary efforts than to go into surgery."

But for so many of his patients, Herbst said, the problem is maintaining a sustained weight loss through dieting.

"If you go on a diet and lose 40 pounds, that's still only a drop in the bucket for someone who weighs 400. It's terribly discouraging."

Gastric partition surgery is by no means a guaranteed cure for obesity, but some patients lose so much weight so fast they can practically see the pounds falling off. Buckwalter tells of a man who lost 225 pounds in just eight months and a woman who went from more than 500 pounds to 165.

For most patients, however, the weight loss is more modest, and a few lose only 20 or 30 pounds. Four out of five patients lost two-thirds of their excess weight within two years. But the physicians stress that in order to achieve an optimum, permanent weight loss, patients must change their lifestyles to include proper eating habits and regular exercise.

"Many of these people have atrocious eating habits and consume unbelievable amounts of food," Buckwalter said, recalling a woman who made a meal of five pounds of hot dogs the night before entering the hospital.

"In addition to doing the operation, we have to help them adopt a completely new lifestyle that doesn't totally revolve around eating."

Herbst said no one considering partition surgery, no

matter how desperate, should take the operation lightly.

"This is big-time surgery, and the possibility of complications should not be minimized," he said. "The chance of having a complication is 20 percent. The chance of having a major, life-threatening complication is 5 percent, and that's significant."

Because of the risks, Herbst said he doesn't operate on people he calls "curiosity seekers."

"I'm not interested in just making people pretty," he said. "I'm interested in making them healthy."

Nevertheless, both physicians agree that the boost to psychological well-being brought about by an improved appearance can be as important as the strictly physical benefits.

"For many people, this literally transforms their lives," Buckwalter said. "They feel re-born because they are able to do things they haven't done in years. They have a new self-image and renewed self-respect."

Buckwalter noted that at least 90% of the people who have partition surgery at N.C. Memorial Hospital are women. The reason, he said, is that obesity seems to create more psychological and social problems for women. "They tend to be more ashamed of it."

The motivation that brings morbidly obese people — both men and women — to the hospital for gastric partition surgery is simple, Buckwalter said. They just want to be normal.

* * *

The appointments of two faculty members to endowed professorships in the School of Medicine have been announced by Chancellor Christopher C. Fordham III.

Dr. David E. Eifrig has been appointed to the Dr. and Mrs. Sterling A. Barrett professorship in ophthalmology, and Dr. Janet J. Fischer has been appointed to a Sarah Graham Kenan professorship in medicine. Eifrig's appointment was effective Dec. 1, and Fischer's was effective Jan. 1.

Eifrig is the first professor to hold the Barrett professorship, which was established last year by a gift from medical school alumnus Dr. Sterling A. Barrett and his wife Pauline. Barrett, formerly of Fayetteville, received his B.S. in medicine here in 1932.

Eifrig is a specialist in vitreous and retinal diseases and surgery, and in intraocular lens implantation.

In 1977, Eifrig joined the faculty of the School of Medicine as professor and chairman of the Department of Ophthalmology to head its first fulltime staff. Until then, ophthalmology faculty members also were in private practice.

Before coming to UNC-CH, Eifrig was an associate professor of ophthalmology at the University of Minnesota at Minneapolis. He was a Fellow at the Jules Stein Eye Institute at the University of California at Los Angeles and a faculty member at the University of Kentucky.

An Illinois native, Eifrig graduated from Carleton

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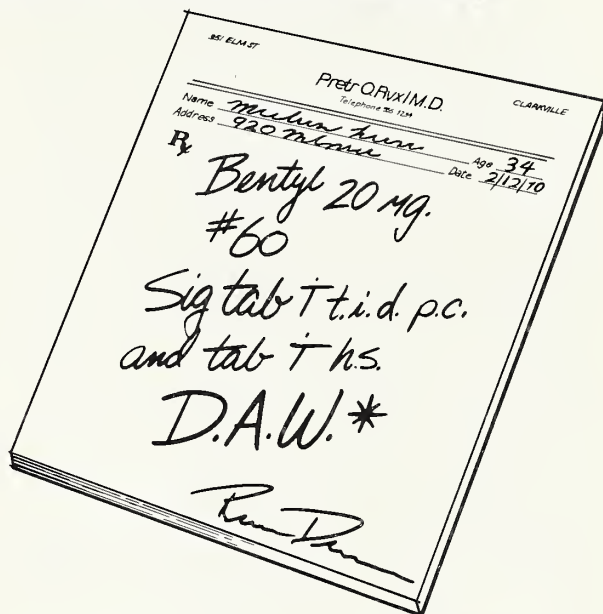


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- ⊕ Pharmacologic effect in the distal colon compared to placebo^{††} shows how Bentyl affects abnormal motor activity in the irritable colon patient.[†]

[†]This drug has been classified "probably" effective for this indication.

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^{††} In the experiments that showed significant pharmacologic effect, the dose of Bentyl used was 50 mg. I.M., which is higher than that permitted in the labeling. This dose was deemed justified since the recommended daily dose of injectable Bentyl is 20 mg. (2 ml.) every 4 to 6 hours. Thus, in 8 hours, a patient could receive a total of 60 mg. I.M. and at that time, as a result of the sustained plasma levels from the 20 mg. injections at 0 and 4 hours, might show an even higher plasma level that occurs after a single 50 mg. I.M. dose. Presumably, the same pharmacologic effect would follow. These observations do not constitute evidence of efficacy.

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For use in the treatment of infant colic (syrup).

Final classification of the less-than-effective indications requires further investigation.

CONTRAINDICATIONS: Obstructive uropathy (for example, bladder neck obstruction due to prostatic hypertrophy); obstructive disease of the gastrointestinal tract (as in achalasia, pyloroduodenal stenosis); paralytic ileus, intestinal atony of the elderly or debilitated patient; unstable cardiovascular status in acute hemorrhage, severe ulcerative colitis; toxic megacolon complicating ulcerative colitis; myasthenia gravis.

WARNINGS: In the presence of a high environmental temperature, heat prostration can occur with drug use (fever and heat stroke due to decreased sweating). Diarrhea may be an early symptom of incomplete intestinal obstruction, especially in patients with ileostomy or colostomy. In this instance treatment with this drug would be inappropriate and possibly harmful. Bentyl may produce drowsiness or blurred vision. In this event, the patient should be warned not to engage in activities requiring mental alertness such as operating a motor vehicle or other machinery or perform hazardous work while taking this drug. There are rare reports of infants, 6 weeks of age and under, administered dicyclomine hydrochloride syrup, who have evidenced respiratory symptoms (breathing difficulty, shortness of breath, breathlessness, respiratory collapse, apnea), as well as seizures, syncope, asphyxia, pulse rate fluctuations, muscular hypotonia, and coma. The above symptoms have occurred within minutes of ingestion and lasted 20 to 30 minutes. The timing and nature of the reactions suggest that they were a consequence of local irritation and/or aspiration rather than a direct pharmacologic effect. No known deaths or permanent adverse effects have been reported. Bentyl syrup should be used with caution in this age group.

PRECAUTIONS: Although studies have failed to demonstrate adverse effects of dicyclomine hydrochloride in glaucoma or in patients with prostatic hypertrophy, it should be prescribed with caution in patients known to have or suspected of having glaucoma or prostatic hypertrophy.

Use with caution in patients with:

Autonomic neuropathy. Hepatic or renal disease. Ulcerative colitis. Large doses may suppress intestinal motility to the point of producing a paralytic ileus and the use of this drug may precipitate or aggravate the serious complication of toxic megacolon.

Hyperthyroidism, coronary heart disease, congestive heart failure, cardiac arrhythmias, and hypertension.

Hiatal hernia associated with reflux esophagitis since anticholinergic drugs may aggravate this condition.

Do not rely on the use of the drug in the presence of complication of biliary tract disease. Investigate any tachycardia before giving anticholinergic (atropine-like) drugs since they may increase the heart rate. With overdosage, a curare-like action may occur.

ADVERSE REACTIONS: Anticholinergics/antispasmodics produce certain effects which may be physiologic or toxic depending upon the individual patient's response. The physician must delineate these. Adverse reactions may include xerostomia, urinary hesitancy and retention, blurred vision and tachycardia; palpitations; mydriasis; cycloplegia; increased ocular tension; loss of taste; headache; nervousness; drowsiness; weakness; dizziness; insomnia; nausea; vomiting; impotence; suppression of lactation; constipation; bloated feeling; severe allergic reaction or drug idiosyncrasies including anaphylaxis; urticaria and other dermal manifestations, some degree of mental confusion and/or excitement, especially in elderly persons, and decreased sweating. With the injectable form there may be a temporary sensation of light-headedness and occasionally local irritation.

DOSEAGE AND ADMINISTRATION: Dosage must be adjusted to individual patient's needs.

Usual Dosage

Bentyl 10 mg. capsule and syrup: **Adults:** 1 or 2 capsules or teaspoonfuls syrup three or four times daily. **Children:** 1 capsule or teaspoonful syrup three or four times daily. **Infants:** ½ teaspoonful syrup three or four times daily. (Dilute with equal volume of water.)

Bentyl 20 mg.: **Adults:** 1 tablet three or four times daily

Bentyl Injection: **Adults:** 2 ml. (20 mg.) every four to six hours intramuscularly only.

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MANAGEMENT OF OVERDOSE: The signs and symptoms of overdose are headache, nausea, vomiting, blurred vision, dilated pupils, hot, dry skin, dizziness, dryness of the mouth, difficulty in swallowing, CNS stimulation. Treatment should consist of gastric lavage, emetics, and activated charcoal. Barbiturates may be used either orally or intramuscularly for sedation but they should not be used if Bentyl with Phenobarbital has been ingested. If indicated, parenteral cholinergic agents such as Urecholine® (bethanecol chloride USP) should be used.

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College in Northfield, Minn. He received his M.D. degree from the Johns Hopkins University, where he completed his residency.

Fischer is the newest recipient of the Sarah Graham Kenan professorship, established in 1964. There are four other faculty members in the School of Medicine who hold chairs.

An infectious disease specialist, Fischer joined the University in 1952. She holds appointments in the Department of Medicine, and Bacteriology and Immunology.

Much of her research has contributed to understanding the causes and complications of urinary tract infections. She also has worked on the problems of Rocky Mountain spotted fever, a disease caused by infected ticks that is especially prevalent in North Carolina. During the past five years she has been studying the causes of byssinosis, or brown-lung disease, in a nationwide project involving several universities.

A Pennsylvania native, Fischer received her A.B. in chemistry from Vassar College and her M.D. from the Johns Hopkins University.

* * *

Dr. P. Frederick Sparling has been named chairman of the Department of Bacteriology and Immunology in the School of Medicine.

The appointment was made by the University Board of Trustees at its meeting Feb. 13.

Sparling, professor of medicine and bacteriology, has been a member of the medical school faculty since 1969.

"Dr. Sparling is one of the most outstanding microbiologists and infectious disease experts in the country," said Dr. Stuart Bondurant, dean of the School of Medicine. "We will be fortunate to have his able leadership in the coming years as the department, which developed so well under the guidance of Dr. Philip Manire, moves toward new roles and accomplishments."

Manire is now university vice chancellor and dean of the graduate school.

Bondurant noted that the Department of Bacteriology and Immunology is "at the forefront of biomedical science and clinical practice because of its involvement in infectious disease immunology, virology and genetics."

Sparling has served for the past six years as chief of the division of infectious diseases in the Department of Medicine. He is a member of the University's Curriculum in Genetics and director of the North Carolina Program on Sexually Transmitted Diseases. His major research interests are bacterial genetics and physiology.

Sparling is a native of Evanston, Ill. He received his undergraduate degree from Princeton University and his M.D. degree from Harvard Medical School.

* * *

Scientists at the School of Medicine are trying to

find out how too much or too little vitamin D sometimes leads to birth defects.

Dr. T. Kenney Gray, professor of medicine and pharmacology, and Dr. Gayle E. Lester, research assistant professor of medicine and pharmacology, are looking into fetal bone development and the way that Vitamin D regulates mineral utilization during pregnancy. They have received an \$18,000 grant from the March of Dimes Birth Defects Foundation to support their investigation for the current year.

Vitamin D is particularly instrumental in regulating the body's use of calcium. Among the birth defects associated with improper calcium metabolism are newborn convulsions, congenital rickets, abnormal tooth development, retarded growth and mental deficiency.

The UNC-CH researchers are studying how mineral metabolism changes during pregnancy and how metabolism differs between mother and fetus. The study focuses largely on the role of the placenta, which controls the exchange of nutrients between mother and fetus, in regulating mineral utilization.

"We hope that what we learn will be important in helping to understand, prevent and treat newborn diseases caused by disturbances of mineral metabolism," Lester said.

The March of Dimes currently supports birth defects research, medical service and education in North Carolina with grants totaling more than \$331,000.

* * *

Former residents of Dr. Newton D. Fischer recently established the Newton D. Fischer Society to sponsor resident research and educational activities, according to Dr. W. Paul Biggers, associate professor of surgery.

"Many of Dr. Fischer's former residents recognized his lifelong interest in resident research and were aware that sources of funding have been dwindling," Biggers said. "The members of the Newton D. Fischer Society contributed funds, and will continue to do so annually to support resident research, which Dr. Fischer strongly believes to be an important part of resident education."

Some 60 former residents and spouses from throughout the Southeast attended the luncheon, which was held in conjunction with the biennial meeting of the Nathan Womack Society Feb. 7.

Fischer, who is Thomas J. Dark Distinguished Professor of Surgery, "has been here since they opened the door (of the hospital) in 1952," Biggers noted. "He's touched the lives of many students. When they remember their training here, they especially remember Dr. Fischer because he's such a remarkable person."

Chosen as officers for the Fischer Society's first year were Dr. Thomas B. Logan, Henderson, Ky., president; Dr. Terry L. Fry, assistant professor of surgery at the UNC-CH School of Medicine, vice president; Dr. John R. Emmett, Memphis, Tenn., secretary-treasurer.

Dr. Jay Arthur Anderson has been appointed clinical assistant professor of anesthesiology in the School of Medicine and of oral surgery in the School of Dentistry effective Jan. 1. A Minnesota native, his specialty is dental anesthesiology.

* * *

Dr. James E. Brown, Department of Anesthesiology, and Dr. Keith W. T. BurrIDGE, Departments of Anatomy and Biochemistry, have been appointed as assistant professors in the School of Medicine.

Brown, whose appointment was effective Jan. 15, has been in private practice since 1979. He was a resident at N.C. Memorial Hospital from 1976-79.

A Texas native, he earned his B.S. in 1972 from Lamar University and his M.D. in 1976 from the University of Texas Medical Branch at Galveston. He is a member of the American Society of Anesthesiologists.

BurrIDGE has been a staff investigator at Cold Spring Harbor Laboratory since 1977 and did postdoctoral work there in 1975-77. His appointment was effective April 1.

A native of England and a British citizen, BurrIDGE earned his B.A. in 1971 from Selwyn College, Cambridge University, and his Ph.D. from MRC Laboratory of Molecular Biology at Cambridge.

* * *

James R. White, professor of biochemistry, reviewed his recent research on antibiotics at the Gordon Research Conference on "Oxygen Radicals in Biology and Medicine" in Ventura, Calif., Jan. 12-16.

* * *

Dr. W. Ray Gammon, assistant professor of dermatology, was a visiting professor at the Department of Dermatology, University of Pennsylvania at Philadelphia Jan. 14-15. He lectured to faculty and residents on "Pathogenesis of Bullous Pemphigoid."

* * *

Dr. John L. Currie, assistant professor of obstetrics and gynecology, received the first prize paper awarded from the Society of Gynecologic Oncologists at their twelfth annual meeting Jan. 13 in Marco Island, Fla. His paper, "Radioactive Chromic Phosphate Suspension Studies on Distribution, Dose Absorption and Effective Therapeutic Radiation in Phantoms, Dogs and Patients," was presented at the society's combined scientific sessions.

The yearly nationwide competition sponsored by the Society of Gynecologic Oncologists awards a prize of \$1,500 for the best paper dealing with basic and clinical research in gynecologic oncology.

Research efforts that led to the prize paper were conducted at Duke University School of Medicine where Currie was a fellow in gynecologic oncology and assistant professor of obstetrics and gynecology prior to joining the faculty of the University of North

Carolina at Chapel Hill School of Medicine in August 1980.

Co-authors in the study were Farideh Bagne, Ph.D.; Craig Harris, M.S.; Dr. Daniel L. Sullivan, Dr. Earl A. Surwit, Dr. Robert H. Wilkinson and Dr. William T. Creasman.

* * *

Dr. Walter E. Stumpf, professor of anatomy and pharmacology, was an invited speaker at the American College of Neuropsychopharmacology annual meeting Dec. 16-18 in San Juan, Puerto Rico.

* * *

Edward L. Chaney, associate professor of radiology, has been appointed to the American Association of Physicists in Medicine Commission on Accreditation of Education Programs for Medical Physicists.

* * *

The School of Medicine's division of otolaryngology research program has been awarded a \$1,000 research grant to support the work of Dr. Jiri Prazma, assistant professor of surgery.

The grant, a gift from Econo Med Pharmaceuticals, will help Prazma continue his studies on the effect of vasodilators on the microcirculation of the inner ear.

* * *

Dr. Edward H. Wagner, associate professor of medicine, has been named deputy director of research at the Health Services Research Center at UNC-CH.

* * *

Dr. N. A. Coulter Jr., professor of surgery and physiology, presented a paper in a brain models symposium at the Society for General Systems Research meeting Jan. 6-9 in Toronto, Canada. He also presented a paper at the recent International Congress on Applied Systems Theory in Acapulco, Mexico.

* * *

Marlys Mitchell, professor and director of the division of occupational therapy, represented the publications committee of the American Occupational Therapy Association at the AOTA executive board meeting Jan. 28-31 in Orlando, Fla.

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News Notes from the—

**EAST CAROLINA UNIVERSITY
SCHOOL OF MEDICINE**

Wachovia Bank and Trust Company has made a \$25,000 gift to the ECU Medical Foundation. The contribution announced the establishment of the Wachovia Fund for Excellence.

According to medical school Dean William E. Laupus, the fund will support the expansion of residency training programs and strengthen programs for disadvantaged students.

Dr. Edwin W. Monroe, president of the Medical Foundation, expressed appreciation for the gift and noted the continuing interest and support shown by Wachovia's leaders in the development of the medical school.

The presentation was made by Thomas A. Bennett, regional vice president of Wachovia and an ECU alumnus.

* * *

Dr. Edwin W. Monroe, associate dean, has been named to the National Advisory Environmental Health Sciences Council.

The council is composed of 15 members nationally recognized as leaders in fundamental sciences, medical sciences and public affairs. Monroe, a specialist in internal medicine, will serve a four-year term.

The council reviews applications for grants relating to the environmental health sciences and recommends approval of worthy projects to the National Institutes of Health. The council is also responsible for surveying research in environmental health and identifying incentives to stimulate additional study.

Monroe joined ECU in 1968 as the first dean of the School of Allied Health and Social Professions and director of health affairs. In 1971 he was named vice chancellor for health affairs, a position in which he guided the development of the School of Medicine as well as programs in the allied health and nursing schools.

As a leader of the university's expanding health science programs, Monroe organized the Eastern Area Health Education Center involving 16 hospitals in the region. He has served as president of the board of directors since the center was established in 1974.

Monroe currently coordinates the development of undergraduate and graduate medical education programs in Eastern North Carolina hospitals and health centers and holds a faculty appointment as professor in the Department of Medicine.

He is a fellow of the American College of Physicians and serves on the editorial board of the *North Carolina Medical Journal*. He is a member of the state Health Coordinating Council and numerous committees and organizations concerned with health services delivery and health manpower education and training.

Seaboard Medical Society, a group of physicians practicing in northeastern North Carolina and eastern Virginia, has made a \$1,000 contribution to the School of Medicine.

Greenville neurosurgeon Ira Hardy presented the gift to Dr. William E. Laupus, medical school dean. Hardy said the donation was made "to express appreciation to ECU for supporting continuing education programs sponsored by Seaboard Medical Society."

The organization conducts a two-day conference annually in June. The medical school, in conjunction with the Eastern Area Health Education Center, provides assistance that allows physicians to receive continuing education credits for their participation.

Organized in the late 1800s, Seaboard Medical Society has more than 120 members.

* * *

Dr. Donald R. Hoffman, associate professor of pathology and laboratory medicine, published "Correlation of IgG and IgE Antibody Levels to Honey Bee Venom Allergens with Protection to Sting Challenge" in the January issue of *Annals of Allergy*. Hoffman also presented the paper at the annual meeting of the American Academy of Allergy in Atlanta, Ga.

* * *

Dr. P. Bruce Campbell, associate professor of medicine, and Dr. Seymour Bakerman, chairman of pathology and laboratory medicine, have received a \$2,500 grant from the Eli Lilly Company for research on "In-Vitro Evaluation of MANDOL versus other Antibiotics Using the Micromedia System." Campbell also received a \$2,500 grant to study "Phase IV Evaluation of Cefamandole."

* * *

Dr. R. Frederick Becker, retired ECU professor of anatomy, is the co-author of a medical text published by W. B. Saunders. *The Radiology of Vertebral Trauma* was written in conjunction with Duke radiologists John Gehweiler and Raymond Osborne.

* * *

The Department of Pediatrics has established a cytogenetics lab in the Division of Genetics. Under the direction of Dr. Kathleen Rao, the lab will offer nearly all of the sophisticated tests used in diagnosing genetic abnormalities. The lab, which is expected to open by early summer, will enable ECU to provide advanced genetic services for the state's 33 eastern counties.

* * *

Drs. Gregory Iams and John Yeager, both assistant professors of physiology, co-authored "The Hemodynamics of Isoproterenol-Induced Cardiac Failure in the Rat" appearing in the May issue of *Circulatory Shock*.

Dr. Charles Boklage, assistant professor of microbiology, presented "The Distribution of Excess Non-righthandedness Among Twins and Their Families" at the ninth annual meeting of the International Neuropsychological Society February 4-7 in Atlanta.

* * *

Dr. Walter Pories, professor and chairman, Department of Surgery, recently presented "The Death of Three Presidents" at the Society of General Surgeons' meeting in San Diego, Calif.

The presentation, made while Pories was a visiting professor at the Veteran's Hospital in San Diego, outlined the causes of death of former presidents James Garfield, Grover Cleveland and William McKinley. Pories discussed the medical treatment the presidents received and compared it to the current care delivered to patients with similar problems.

* * *

Dr. David H. Hollander, professor of pathology and laboratory medicine, published "The Clinical and Laboratory Diagnosis of *Trichomonas Vaginalis* Infection" in the October/December issue of *The Journal of Sexually Transmitted Diseases*.

News Notes from the—

BOWMAN GRAY SCHOOL OF MEDICINE WAKE FOREST UNIVERSITY

The most prestigious award which can be given to a young neuroradiologist has been presented to a doctor at the Bowman Gray/Baptist Hospital Medical Center.

Dr. A. Ronald Cowley received the Cornelius G. Dyke Memorial Award from the American Society of Neuroradiology during the society's annual meeting in Chicago.

Cowley is completing a fellowship in neuroradiology this spring.

The Dyke award includes a \$1,000 prize and an expense paid trip to the Chicago meeting.

At the meeting, Cowley presented the scientific paper which won the award. The paper, entitled "The Influence of Fiber Tracts on the Computed Tomographic Appearance of Cerebral Edema — An Anatomical Pathological Correlation," describes how fluid which causes swelling in an injured brain travels along certain major nerve fiber pathways. That discovery helps to explain some of the unsolved mysteries of certain nervous system disorders.

The neuroradiology award is named for the father of American neuroradiology. Dyke was the nation's first neuroradiologist and was on the faculty of Columbia

CYCLAPEN-W® (cyclacillin)

Indications

Cyclacillin has less *in vitro* activity than other drugs in the ampicillin class and its use should be confined to these indications. Treatment of the following infections.

RESPIRATORY TRACT

Tonsillitis and pharyngitis caused by Group A beta-hemolytic streptococci
Bronchitis and pneumonia caused by *S. pneumoniae* (formerly *D. pneumoniae*)
Otitis media caused by *S. pneumoniae* (formerly *D. pneumoniae*) and *H. influenzae*
Acute exacerbation of chronic bronchitis caused by *H. influenzae**

*Though clinical improvement has been shown, bacteriologic cures cannot be expected in all patients with chronic respiratory disease due to *H. influenzae*.

SKIN AND SKIN STRUCTURES (integumentary) infections caused by Group A beta-hemolytic streptococci and staphylococci, non-penicillinase producers.

URINARY TRACT INFECTIONS caused by *E. coli* and *P. mirabilis*. (This drug should not be used in any *E. coli* and *P. mirabilis* infections other than urinary tract.)

NOTE: Perform cultures and susceptibility tests initially and during treatment to monitor effectiveness of therapy and susceptibility of bacteria. Therapy may be instituted prior to results of sensitivity testing.

Contraindications Contraindicated in individuals with history of an allergic reaction to penicillins.

Warnings Cyclacillin should only be prescribed for the indications listed herein.

Cyclacillin has less *in vitro* activity than other drugs of the ampicillin class. However, clinical trials demonstrated it is efficacious for recommended indications.

Serious and occasional fatal hypersensitivity (anaphylactoid) reactions have been reported in patients on penicillin. Although anaphylaxis is more frequent following parenteral use, it has occurred in patients on oral penicillins. These reactions are more apt to occur in individuals with history of sensitivity to multiple allergens. There are reports of patients with history of penicillin hypersensitivity reactions who experienced severe hypersensitivity reactions when treated with cephalexin. Before penicillin therapy, carefully inquire about previous hypersensitivity reactions to penicillins, cephalosporins and other allergens. If allergic reaction occurs, discontinue drug and initiate appropriate therapy. Serious anaphylactoid reactions require immediate emergency treatment with epinephrine. Oxygen, I.V. steroids, airway management, including intubation, should also be administered as indicated.

Precautions Prolonged use of antibiotics may promote overgrowth of nonsusceptible organisms. If superinfection occurs, take appropriate measures.

PREGNANCY Pregnancy Category B. Reproduction studies performed in mice and rats at doses up to 10 times the human dose revealed no evidence of impaired fertility or harm to the fetus due to cyclacillin. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, use this drug during pregnancy only if clearly needed.

NURSING MOTHERS It is not known whether this drug is excreted in human milk. Because many drugs are excreted when cyclacillin is given to a nursing woman.

Adverse Reactions Oral cyclacillin is generally well tolerated. As with other penicillins, untoward sensitivity reactions are likely, particularly in those who previously demonstrated penicillin hypersensitivity or with history of allergy, asthma, hay fever, or urticaria. Adverse reactions reported with cyclacillin: diarrhea (in approximately 1 out of 20 patients treated), nausea and vomiting (in approximately 1 in 50), and skin rash (in approximately 1 in 60). Isolated instances of headache, dizziness, abdominal pain, vaginitis, and urticaria have been reported. (See WARNINGS) Other less frequent adverse reactions which may occur and are reported with other penicillins are anemias, thrombocytopenia, thrombocytopenic purpura, leukopenia, neutropenia, and eosinophilia. These reactions are usually reversible on discontinuation of therapy.

As with other semisynthetic penicillins, SGOT elevations have been reported.

As with antibiotic therapy generally, continue treatment at least 48 to 72 hours after patient becomes asymptomatic or until bacterial eradication is evidenced. In Group A beta-hemolytic streptococcal infections, at least 10 days' treatment is recommended to guard against risk of rheumatic fever or glomerulonephritis. In chronic urinary tract infection, frequent bacteriologic and clinical appraisal is necessary during therapy and possibly for several months after. Persistent infection may require treatment for several weeks.

Cyclacillin is not indicated in children under 2 months of age.

Patients with Renal Failure Cyclacillin may be safely administered to patients with reduced renal function. Due to prolonged serum half-life, patients with various degrees of renal impairment may require change in dosage level (see DOSAGE AND ADMINISTRATION in package insert).

Dosage (Give in equally spaced doses)

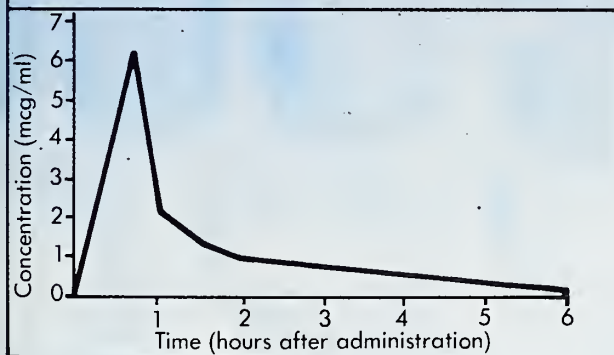
| INFECTION | ADULTS | CHILDREN* |
|-----------------------------|-------------------------|--|
| Respiratory Tract | | |
| Tonsillitis & Pharyngitis | 250 mg q.i.d. | body weight < 20 kg (44 lbs) 125 mg q.i.d. body weight > 20 kg (44 lbs) 250 mg q.i.d. |
| Bronchitis and Pneumonia | | |
| Mild or Moderate Infections | 250 mg q.i.d. | 50 mg/kg/day q.i.d. |
| Chronic Infections | 500 mg q.i.d. | 100 mg/kg/day q.i.d. |
| Otitis Media | 250 mg to 500 mg q.i.d. | 50 to 100 mg/kg/day† q.i.d. |
| Skin & Skin Structures | 250 mg to 500 mg q.i.d. | 50 to 100 mg/kg/day† q.i.d. |
| Urinary Tract | 500 mg q.i.d. | 100 mg/kg/day |

*Dosage should not result in a dose higher than that for adults
†depending on severity

Half the dose
is absorbed in 9 minutes!
compared to 32 minutes for ampicillin.*



Mean blood levels in mcg/ml after 250 mg cyclacillin single oral dose



- Rapid, virtually complete absorption from GI tract
- Exceptionally high peak blood levels – 3 times greater than ampicillin (Clinical efficacy may not always correlate with blood levels.)
- Rapidly excreted unchanged in urine – 1½ times faster than ampicillin

*Based on $T^{1/2}$ values for single oral doses of 500 mg cyclacillin tablet and 500 mg ampicillin capsule. Data on file, Wyeth Laboratories.

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†Due to susceptible organisms.

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University's College of Physicians and Surgeons for 22 years.

The Dyke award recognizes original neuroradiological research by a junior faculty member or someone training in neuroradiology.

* * *

Each year, more than a thousand people permit doctors at the Bowman Gray/Baptist Hospital Medical Center to thread a slender plastic tube through their arteries and into the chambers of their hearts.

For those patients, that is the first step in a diagnostic procedure known as cardiac catheterization which enables physicians to accurately detect such problems as congenital heart defects, leaking heart valves and clogged coronary arteries.

The medical center has two cardiac catheterization laboratories which, in the past year, performed 1,119 adult and 109 pediatric catheterization procedures. The number of procedures has been rising about 10% a year.

As a result of the increased patient load, there is overcrowding in the existing laboratories. And one of the facilities, dating back to 1972, is starting to show its age.

For those reasons, the medical center is preparing to open a third laboratory.

The new facility will cost more than \$1 million, with most of that money needed for the purchase of the required x-ray machine.

* * *

Dr. David M. Biddulph, associate professor of anatomy, has been awarded a 1981 Faculty Foreign Travel Award. He will use the award to participate in the International Workshop on Calcium and Phosphate Transport Across Biomembranes in Vienna, Austria. He will present a paper there on the factors which regulate calcium transmission in the kidney.

* * *

Leon L. Rice Jr., a Winston-Salem attorney, has been elected chairman of the Medical Center Board of the Bowman Gray School of Medicine and North Carolina Baptist Hospital.

He succeeds Francis E. Garvin of Wilkesboro.

E. J. Prevatte of Southport was elected vice chairman and Richard A. Williams of Newton was elected treasurer.

Miss Katherine Davis, assistant to the medical center director, was re-elected secretary.

The board, consisting of six trustees of Wake Forest University, six trustees of Baptist Hospital and a member of the medical center's professional staff, is responsible for the overall supervision of the medical center.

Dr. Manson Meads is director of the medical center.

Newly appointed members of the Medical Center Board include Edsel Cook of Boone, Dr. Thomas D. Long of Roxboro, and Dr. W. Boyd Owen of Waynesville. Dr. Joseph E. Johnson III, professor and chairman of the medical school's Department of Medicine, was reappointed as the professional staff member.

Appointed to the board's Executive Committee were Garvin, who is president and director of Holly Farms Poultry Industries, and Dr. Claude A. McNeill Jr., an Elkin physician.

* * *

T. D. Flack Jr. has been named vice president for general services at North Carolina Baptist Hospital, Bowman Gray's principal teaching hospital.


He succeeds Reuben H. Graham, who retired after more than 30 years of service with the hospital.

In his new position, Flack will be responsible for hospital engineering, environmental services, infection control, dietary services, safety and security and student and resident housing.


* * *


The Cancer Research Center at the Bowman Gray School of Medicine has been awarded a \$1.6 million grant by the National Cancer Institute to support its continued research for a three-year period.


Since its formation in 1972, the cancer center's aims have been to increase understanding of the basic



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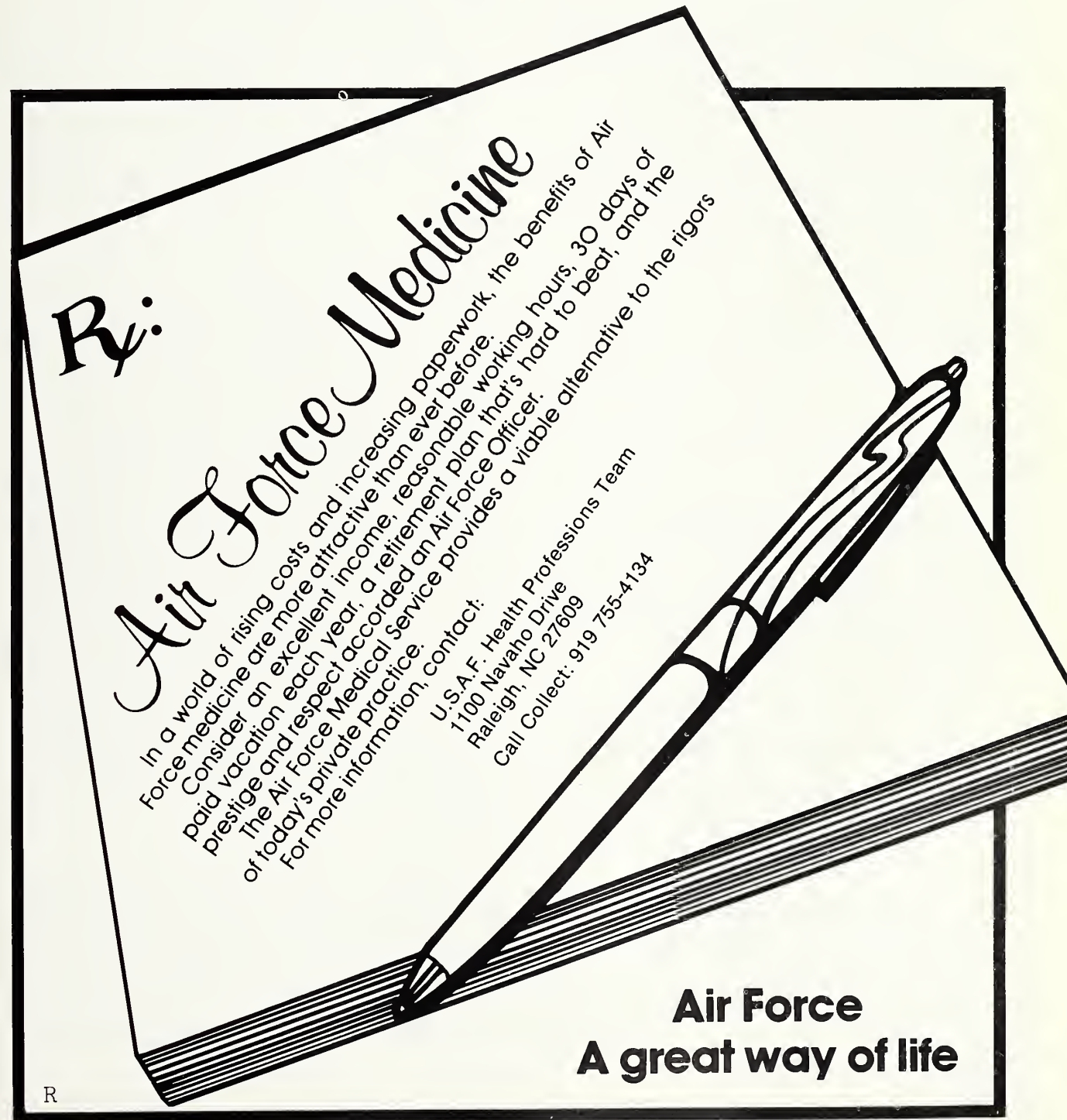
biomedical mechanisms involved in cancer and to bring the fruits of research to the bedside of the patient.

In basic research, the center has placed special emphasis on work aimed at determining how normal cells are transformed into cancer cells, on understanding the biology of cell membranes as they relate to cancer, on the body's natural defense system, and on pharmacology, especially as it relates to the development of new anti-cancer drugs.

Clinical researchers have focused their attention on

the development, testing and rapid evaluation of new treatment methods.

In a program aimed at speeding up the transfer of cancer information to the practicing physician and thence to the patient, the cancer center has established the Piedmont Oncology Association, which brings together 72 cancer specialists in a four-state region. Through the association, the physicians and their patients have access to the latest in cancer treatments, while the cancer center is provided information which assists in evaluating the treatments.



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Dr. David L. Kelly Jr., professor of neurosurgery, has been elected to the executive council to the Cerebrovascular Section of the American Association of Neurological Surgeons.

* * *

Dr. Quentin N. Myrvik, professor and chairman of the Department of Microbiology and Immunology, has been appointed to a four-year term to review grants for biomedical research relating to the National Aeronautics and Space Administration.

* * *

Dr. Timothy C. Pennell, associate professor of surgery, has been appointed to the advisory board of the Duke University Andean Rural Health project.

* * *

Dr. George Podgorny, clinical associate professor of surgery (emergency medical services), has been elected to a two-year term on the executive committee of the Medical Devices Standards Management Board of the American National Standards Institute.

News Notes from the—

DUKE UNIVERSITY MEDICAL CENTER

A computerized heart monitoring system, which physicians call the only one of its kind in the world, is

now in operation at Duke University Medical Center. The Central Surveillance System (CSS) uses 15 computers to continually record and report abnormally high or low heart rates.

The system is expected to help ease the hospital's nursing shortage.

The CSS can monitor as many as 197 patients at once, and because all 645 beds in the new North Division are wired for the system, patients do not have to be placed on a special floor to be monitored.

Dr. Larry Burton, assistant medical research professor of anesthesiology and assistant professor of electrical engineering, said:

"We got a system that was designed to meet Duke's specific needs. Ours is a computer-assisted monitoring system, but we still rely on people to watch the screens and check the bedside monitors."

The system works like this: A doctor prescribes a safe range of heart rates for a patient and gives the range to a respiratory care technician. A portable bedside monitor is adjusted to the ranges prescribed. The monitor sends information about the patient's heart rate through wiring in the room and to a switchboard connected to the computer.

Some patients have their electrocardiogram readings sent to the bedside monitor by a radio transmitter which allows them to walk anywhere on the floor and still be monitored. Others have their ECG patches taped to the chest and connected to the bedside monitor by wires.

If a patient's heart rate goes outside the safe range, the ECG reading is immediately transferred to one of 40 computer screens in the cardiac care unit. Alarms go off in the patient's room, at the nursing station and at screens in each hallway. The patient's room number is flashed on these screens. An alarm also sounds in the monitoring room, where two attendants constantly watch the screens. The attendants use a "hot-line" phone to call the nursing station nearest the patient to make certain the patient's nurses are alert.

Three years of study and work went into development of the CSS, with Dr. D. Woodrow Benson, Jr., serving as chairman of the CSS subcommittee. Benson, assistant professor of pediatric cardiology, said:

"A project of this magnitude would never have gotten off the ground without the cooperation from all involved. There's not another system like it in the world."

* * *

Surprising everyone, the three divers in the hyperbaric chamber at Duke University Medical Center popped out of the chamber 34 minutes early, healthy and in good spirits after their record-setting 43 days under pressure simulated to equal that at depths as deep as 2,250 feet. The 2,250-foot depth breaks the previous world's record, also set in the high pressure chamber in the F. G. Hall Laboratory for Environmental Sciences at Duke.

The dive, third in a series of 10 in the long-term Atlantis project, was designed to learn more about the

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Examine Me.

During the past several years, I have heard my name mentioned in movies, on television and radio talk shows, and even at Senate subcommittee sessions. And I have seen it repeatedly in newspapers, magazines, and yes, best-sellers. Lately, whenever I see or hear the phrases "overmedicated society," "overuse," "misuse," and "abuse," my name is one of the reference points. Sometimes even *the* reference point.

These current issues, involving patient compliance or dependency-proneness, should be given careful scrutiny, for they may impede my overall therapeutic usefulness. As you know, a problem almost always involves improper usage. When I am prescribed and taken correctly, I can produce the effective relief for which I am intended.

Amid all this controversy, I ask you to reflect on and re-examine my merits. Think back on the patients in your practice who have been helped through your clinical counseling and prudent prescriptions for me. Consider your patients with heart problems, G.I. problems, and interpersonal problems who, when their anxiety was severe, have been able to benefit from the medication choice you've made. Recall how often you've heard, as a result, "Doctor, I don't know what I would have done without your help."

You and I can feel proud of what we've done together to reduce excessive anxiety and thus help patients to cope more successfully.

If you examine and evaluate me in the light of your own experience, you'll come away with a confirmation of your knowledge that I *am* a safe and effective drug when prescribed judiciously and used wisely.

For a brief summary of product information on Valium (diazepam/Roche)® , please see the following page. Valium is available as 2-mg, 5-mg and 10-mg scored tablets.

Valium® diazepam/Roche

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Management of anxiety disorders, or short-term relief of symptoms of anxiety, symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal, adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

The effectiveness of Valium (diazepam/Roche) in long-term use, that is, more than 4 months, has not been assessed by systematic clinical studies. The physician should periodically reassess the usefulness of the drug for the individual patient.

Contraindications: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma, may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication, abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms similar to those with barbiturates and alcohol have been observed with abrupt discontinuation, usually limited to extended use and excessive doses. Infrequently, milder withdrawal symptoms have been reported following abrupt discontinuation of benzodiazepines after continuous use, generally at higher therapeutic levels, for at least several months. After extended therapy, gradually taper dosage. Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence.

Use in Pregnancy: Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed, drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other anti-depressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice, periodic blood counts and liver function tests advisable during long-term therapy.

Dosage: Individualize for maximum beneficial effect. **Adults:** Anxiety disorders, symptoms of anxiety, 2 to 10 mg b.i.d. to q.i.d.; alcoholism, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed, adjunctively in skeletal muscle spasm, 2 to 10 mg t.i.d. or q.i.d., adjunctively in convulsive disorders, 2 to 10 mg b.i.d. to q.i.d. **Geriatric or debilitated patients:** 2 to 2½ mg, 1 or 2 times daily initially, increasing as needed and tolerated. (See Precautions.) **Children:** 1 to 2½ mg t.i.d. or q.i.d. initially, increasing as needed and tolerated (not for use under 6 months).

Supplied: Valium® (diazepam/Roche) Tablets, 2 mg, 5 mg and 10 mg—bottles of 100 and 500, Tel-E-Dose® packages of 100, available in trays of 4 reverse-numbered boxes of 25, and in boxes containing 10 strips of 10, Prescription Paks of 50, available in trays of 10.



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effects of pressures at great underwater depths. The ultimate purpose is to discover ways in which human beings can work safely, comfortably and efficiently at the depths required in such fields as offshore oil work, undersea mining, energy conversion projects, maritime agriculture, salvage operations and others.

The director of the dive is Dr. Peter B. Bennett, professor of anesthesiology and director of the F. G. Hall Lab. Bennett likened the underwater exploration to the probing of outer space. He predicted that the work of the volunteer divers — Erik Kramer, Leonard Whitlock, Stephen Porter — will one day come to be regarded with the same importance as that done by astronauts.

* * *

Dr. Everett R. Ellinwood Jr., professor of psychiatry, received a \$155,942 grant from the National Institute on Drug Abuse. The grant supports Ellinwood's multiphase study of "Chronic Stimulant Intoxication."

* * *

Dr. Jacob J. Blum, professor of physiology, received an \$88,920 award from the National Institute of Child Health and Human Development. Blum is studying the "Control of Metabolism in Tetrahymena."

* * *

The Department of Anatomy received an \$18,338 grant for the "Biogeographic and Systematic Studies of Extinct Antillean Land Mammals."

* * *

Dr. James K. Roche, assistant professor of gastroenterology, received a \$74,263 award from the National Institute of Arthritis, Metabolism and Digestive Diseases for the study of "Immunological Mechanisms for Gut Inflammation."

* * *

Dr. Daniel G. Blazer, associate professor of psychiatry, received a \$352,378 grant from the National Institute of Mental Health for "Epidemiological Catchment Area."

* * *

Dr. Robert M. Bell, associate professor of biochemistry, has won a Macy Fellowship for a year's study at Cambridge. He will study membrane biogenesis.

* * *

Dr. Raymond U, assistant professor of radiology, will speak on "Prospective Methods of Radiation Therapy in Developing Countries" at a meeting sponsored by the International Atomic Energy Agency in Kyoto, Japan, Aug. 31-Sept. 4.

* * *

Dr. Myron Wolbarsht, professor of ophthalmology

and biomedical engineering, received a service citation from the Society of Photo-Optical Instrumentation Engineers. The citation is in appreciation for Wolbarsht's contributions as co-chairman of the society's 1980 symposium. Wolbarsht and David H. Slimey published a book, "Ocular Effects of Non-ionizing Radiation," detailing the subject matter presented at the symposium.

* * *

Dr. David T. Smith, of Little Rock, Arkansas, died on January 20, 1981. Smith was a member of the original faculty of the Duke University School of Medicine, serving as chairman of the Department of Microbiology for 30 years and later as chairman of the Department of Preventive Medicine. He authored several books on microbiology and mycology and was internationally recognized for his research in tuberculosis and fungus infections. Dr. Smith is survived by his wife Susan Gower Smith, a daughter and five grandchildren.

* * *

Dr. John J. Gallagher and others at Duke University Medical Center have reported on a technique for electrically pacing the heart by means of an electrode-tipped lead passed through the patient's nostrils and swallowed down the esophagus. Gal-

lagher says the new technique provides a reliable, safe, efficient and less costly alternative in certain cases to the use of cardiac catheterization.

Gallagher is professor of medicine in the division of cardiology and director of the Clinical Electrophysiology Laboratory at Duke. Results of his study were presented at the 53rd Scientific Session of the American Heart Association in Miami Beach last fall.

"The beauty of this lead," he said, "is that it gives the physician instant, reliable results. It can be used quickly and easily in any situation, whether the patient is ambulatory or confined to a bed, in emergency situations or outpatient situations. The process doesn't involve any surgery and causes minimal discomfort to the patient."

The lead can be used to induce tachycardia in patients who are asymptomatic while being examined. The lead also can terminate tachycardia, thus eliminating the need for cardioversion. Other uses, according to Gallagher, are in temporary management of bradycardia and assessment of the long-term efficacy of drug therapy for certain tachycardia conditions.

The lead itself, a 59 cm length of soft plastic tubing with imbedded wires, surmounts problems of earlier esophageal leads by wider spacing of the electrodes and longer pulse durations (10 times the duration of earlier leads).

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"I'd like to think that this lead will become a standard part of the physician's repertoire for screening and therapy in the very near future," Gallagher said. "It allows us to acquire important information for the care of the patient in an easier and safer manner."

The development of the esophageal lead grew out of the work of Gallagher, Dr. Will C. Sealey and others at Duke who have worked with Wolff-Parkinson-White syndrome. Sealey is professor in the division of general and thoracic surgery in the Department of Surgery. The electronic stimulating device used in the technique was constructed at Duke by Jack Kasell of the Department of Medicine. Development and testing was done by Gallagher, Drs. Warren Smith and Charles Kerr and Laura Cook, R.N., all of the division of cardiology in the Department of Medicine.

* * *

Dr. Andrew G. Wallace has been named associate vice president of Duke University Medical Center. The position gives Wallace responsibility for the 1,008-bed Duke University Hospital.

Wallace is Walter Kempner Professor of Medicine and chief of the division of cardiology in the Department of Medicine.


He succeeds Dr. Roscoe R. (Ike) Robinson, who

has been named vice president for medical affairs at Vanderbilt University. Wallace's appointment was approved by the Duke trustees.

"I am honored by the appointment," Wallace said. "More importantly, I feel challenged by the opportunity to help an already great university and medical center achieve its full potential. I look forward to working toward our goal of being the best, with the patients, students, faculty and the thousands of other dedicated people who make the medical center work. I am particularly fortunate to be able to build on the superb foundation laid by Dr. Robinson, Stuart Sessoms and others before them," he added.

"Andy Wallace was the unanimous choice of the committee recommending a successor to Dr. Robinson. He is eminently qualified to occupy this key position. An internationally renowned cardiologist, he holds the high respect of the faculty and staff," said Dr. William G. Anlyan, vice president for health affairs at Duke.

Wallace received his M.D. in 1959 from Duke University School of Medicine. He joined the faculty as assistant professor of medicine in 1965 and was a Markle Scholar from 1965-1970. He was named chief of cardiology in 1969 and professor of medicine in 1971.



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His major areas of research have included the physiology of the heart, alterations of heart rhythm and coronary heart disease.

The author of more than 170 scientific publications, Wallace serves on the editorial board of six major scientific journals and is associate editor of major textbooks on internal medicine, cardiology and nursing.

Wallace is widely known as the developer of the innovative Duke University Preventive Approach to Cardiology (DUPAC), a program designed to prevent heart disease through planned exercise, sensible diet and medical attention.

The DUPAC program's permanent home will be in a

three-story, 30,000-square-foot facility being built at Wallace Wade Stadium. The \$2.5 million facility also will serve as press box for Duke University athletics.

Wallace also helped develop the Physician's Assistant Program and the "Computerized Medical Textbook" project, a long-term system for the compilation and storage of data on thousands of patients in order to extend the experience and knowledge of practicing physicians.

Wallace recently was appointed to the cardiology advisory council of the National Heart, Lung and Blood Institute, and he has served as consultant to the American Heart Association, the National Institutes of Health and the Veterans Administration.

Newly Observed Affection of the Thyroid Gland in Females

I have lately seen three cases of violent and long continued palpitations in females, in each of which the sample peculiarity presented itself, viz. enlargement of the thyroid gland; the size of this gland, at all times considerably greater than natural, was subject to remarkable variations in every one of these patients. When the palpitations were violent the gland used notably to swell and become distended, having all the appearance of being increased in size in consequence of an interstitial and sudden effusion of fluid into its substance. The swelling immediately began to subside as the violence of the paroxysm of palpitation decreased, and during the intervals the size of the gland remained stationary. Its increase of size and the variations to which it was liable had attracted forcibly the attention both of the patients and of their friends. There was not the slightest evidence of any thing like inflammation of the gland.

In one the beating of the heart could be heard during the paroxysm at some distance from the bed, a phenomenon I had never before witnessed, and which strongly excited my attention and curiosity. — Robert J. Graves, 1834-5.

Another fact well worthy of notice, is that females liable to attacks of palpitations almost invariably complain of a sense of fulness, referred to the throat, and exactly corresponding to the situation of the thyroid. This sensation only continues while the paroxysm of palpitation lasts, and frequently is so urgent as forcibly to attract the patient's notice, who now complains of its inducing a sense of suffocation. Here the interesting question occurs whether this feeling of something that impedes the respiration at the bottom of the throat, during the hysterical fit, and which has been included under the general term *globus hystericus*, — the question arises, I say, whether this feeling is always of purely nervous origin. — Robert J. Graves, 1834-5.

A lady, aged twenty, became affected with some symptoms which were supposed to be hysterical. This occurred more than two years ago; her health previously had been good. After she had been in this nervous state about three months it was observed that her pulse had become singularly rapid. This rapidity existed without any apparent cause, and was constant, the pulse being never under 120, and often much higher. She next complained of weakness on exertion, and began to look pale and thin. Thus she continued for a year, but during this time she manifestly lost ground on the whole, the rapidity of the heart's action having never ceased. It was now observed that the eyes assumed a singular appearance for the eyeballs were apparently enlarged, so that when she slept or tried to shut her eyes, the lids were incapable of closing. When the eyes were open, the white sclerotic could be seen, to a breadth of several lines, all around the cornea. In a few months, the action of the heart continuing with increasing violence, a tumour, of a horseshoe shape, appeared on the front of the throat and exactly in the situation of the thyroid gland. — Robert J. Graves, 1834-5.

View From Raleigh

The North Carolina General Assembly convened Jan. 14 in Raleigh. The House of Representatives is composed of 96 Democrats and 24 Republicans, of whom 87 are incumbents, and the Senate of 40 Democrats and 10 Republicans, 39 of whom are incumbents. For most legislators it is not their initial session.

The House under the leadership of a new speaker, Liston B. Ramsey (D-Madison), moved quickly to organize and elected Allen C. Barbee (D-Nash) as speaker pro tem. Ramsey appointed Rep. Thomas Hunter (D-Richmond) as chairman of the House Health Committee which will consider most medical issues.

In the Senate the leadership changed little from the 1979 session. The chamber will be headed by its constitutional president, Lt. Governor James C. Green; the president pro tem once again will be Sen. Craig Lawing (D-Mecklenburg), the majority leader Kenneth C. Royall Jr. (D-Durham), while the chairman of the Human Resources Committee is Sen. Ollie Harris (D-Cleveland).

In opening remarks to the Senate, Lt. Governor Green stressed the need to preserve North Carolina's quality of life using existing resources. He reminded each member of the responsibility to distinguish between what is necessary and what is merely desirable.

Ramsey, speaking before the House, declared that every North Carolinian has the right to effective, available and affordable health care; to personal safety and a fair system of law and justice; to a clean environment and an adequate supply of energy; to a reliable system of transportation; and to decent treatment when young, dignity when old, and opportunity at all ages.

Also in the opening days of the Legislature, Gov. James B. Hunt presented to the General Assembly during his State of the State address his proposed budget which he described as "a program for progress, a strategy for the future." Joint Base Budget Committees of both the House and Senate have begun work reviewing the governor's proposals. Concern over rising Medicaid costs arose during early sessions of the House and Senate Base Budget Committees on Human Resources. Expected cuts in federal aid have increased legislative awareness of the cost of this program to the state.

The 1981 session marks the first time in many years that the General Assembly does not have a medical doctor among its members. Because of the many visitors in the Legislative Building and the stressful conditions under which legislators work, particularly late

in the session, the North Carolina Medical Society offered and the General Assembly accepted a proposal that the society assist in providing medical services by individual physicians as "Legislative Physicians" of the day. The response from the medical society membership to the request has been good. The first "doctors of the day" were enthusiastically received by legislators and their staffs. A special parking space was designated and an office was provided for the physicians' use. Many states including South Carolina, Georgia and Tennessee, have similar programs.

The Committee on Legislation, in conjunction with the Committee on Communications, held its biennial Legislative Reception on Feb. 5 at the Capital City Club, and the event, entitled "A Night at the Top," was a rousing success. More than 450 legislators and doctors, spouses and staff attended the affair.

While all this is, of course, important to understanding the mood of the General Assembly, medically oriented legislation has already begun to make its appearance. A series of four bills introduced by Rep. Ted Kaplan (D-Forsyth) have drawn the opposition of the North Carolina Medical Society's Committee on Legislation. The first, HB 152, would repeal North Carolina's malpractice laws: the four statutes enacted on the recommendation of a Legislative Study Commission in 1976, after eight months of intensive study and debate concerning professional liability of health care practitioners and physicians, as well as other professionals. The 1976 bill was supported by the Medical Society. Those statutes shorten the time within which suits against professionals may be instituted, codify the law defining standards of care, and define the basis for liability on the grounds of lack of informed consent of a patient, and limit the liability for damages of people acting as "good samaritans" in rendering aid to victims of accidents and other emergencies. Repeal of these statutes would bring back the same issues which were the cause of the medical malpractice insurance crisis in the mid-1970s.

Kaplan's second bill, HB 167, would add two public members appointed by the governor to the Board of Medical Examiners. The medical society gave extensive testimony before the N.C. Governmental Evaluation Commission over the summer questioning the need for this additional expense. Kaplan's third bill, HB 189, would create the North Carolina Health Services Cost Review Commission, to provide for the control of hospital costs, and to transfer authority for certification-of-need review from the Department of

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Human Resources to the commission. The commission would be composed of nine members, three each appointed by the governor, speaker and president pro tempore of the Senate for four-year staggered terms, and would elect its own chairman. Members could serve two consecutive terms. No more than two members could be affiliated with a hospital or health product manufacturer or health insurer; an executive director would serve as the chief administrator for the program.

The commission would be empowered to hold hearings; conduct investigations with subpoena power; promulgate rules and regulations required for federal funding; seek and accept grants from and enter contracts with governments; provide technical assistance to health care facilities to facilitate compliance with the articles; establish a uniform system of accounting and financial reporting for all hospitals taking into consideration hospital size, existing systems and federal requirements; require annual financial reports from hospitals; establish growth ceilings for hospital revenues; approve reasonableness of hospital rates; modify systems for determining rate structures; and hold public hearings on proposed rate changes. The bill would allow the attorney general to intervene in any commission proceeding on behalf of the public. It would also amend the present "Certificate of Need Law" and make the commission the state health planning and development agency for issuing certificates of need as required under certain federal laws for receipt by health care facilities of federal funds. The bill would be effective upon ratification.

Kaplan's final bill, HB 194, would allow blanket generic substitution of drugs. Those authorized to write prescriptions would only be able to prevent generic drug substitution if in their own handwriting the words "Dispense as Written" were written on the prescription form. The bill would provide that no other method of instruction would be adequate to preclude substitution. The current drug substitution statute was enacted at the request of the Medical Society and others in 1979. Under the present statute, pharmacists are not allowed to substitute if a physician indicates orally, in handwriting, or by pre-printed instruction on a two-line prescription form that a drug should be "Dispensed as Written." Should Kaplan's bill pass, the two-line prescription form could no longer be used to prevent substitution.

Rep. Patricia Hunt (D-Orange) introduced House Bill 218 known as "Nursing Practice-Regulated." The bill was drafted by the North Carolina Nurses' Association and is a complete revision of the Nurse Practice Act in North Carolina, providing a new definition of the practice of nursing. The Committee on Legislation has felt that the current definition of nursing is quite broad and representative of the many humane acts provided by those people engaged in the practice of nursing. The new definition, coupled with a deletion from the present statutes of an exemption which allows persons to perform "specified mechanical acts under the direction of a licensed physician, nurse or dentist," makes the new proposal quite restrictive. The new draft would delete the two doctors and two hospital administrators from the board and require continuing education for license renewal. This aspect of the bill could have substantial impact on voluntary effort in hospital cost containment programs.

The proposed statute omits a provision in the current law which guarantees the right of hospitals to operate diploma schools of nursing. We believe it is important for the statute to encourage additional educational units in nursing. It has been the feeling of the Committee on Legislation that this specific provision be retained in the new act. Perhaps, most importantly, the bill would give autonomy to the joint subcommittee of the Board of Medical Examiners and the Board of Nursing which certifies nurse practitioners. Currently, both boards have a veto over actions of the joint subcommittee. Our Committee on Legislation feels very strongly that the Board of Medical Examiners should have the ultimate responsibility for the quality of the delivery of medical acts. The committee will vigorously oppose this provision.

In order to keep you better informed, the Committee on Legislation has a toll free telephone line, 1-800-662-7216. Any member may call this line once a day and hear a tape recorded message on current legislative issues. If you would like to express concern to your representative in the General Assembly on any of these issues, write to them at the State Legislative Building, Raleigh, N.C. 27611.

Thomas L. Adams
Assistant Executive Director, Public Affairs
N.C. Medical Society

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Index to Advertisers

| | |
|---------------------------------------|----------|
| Air Force | 363 |
| American Red Cross | 320 |
| Anderson-Clayton Foods | 346 |
| Blue Cross & Blue Shield of N.C. | 306 |
| Bristol Laboratories | 324, 325 |
| Burroughs Wellcome Company | 326, 362 |
| Charlotte Chest Laboratory | 364 |
| Charlotte Treatment Center | 374 |
| Children's Home Society of N.C. | 349 |
| Crumpton, J. L. & J. Slade, Inc. | 311 |
| Fellowship Hall, Inc. | 345 |
| Golden-Brabham Insurance Agency | 371 |
| Graphic Cardiology | 315 |
| Hedeco | 307 |
| Holly Hill Hospital | 367 |
| Janssen Pharmaceutica | 313 |
| Lilly, Eli & Company | 316 |
| Mandala Center | 314 |

| | |
|--|--|
| Mead Johnson & Co. | 309 |
| Medical Mutual Insurance Company | 308 |
| Merrell-National, Inc. | 322, 323, 354, 355, 356 |
| Mutual of Omaha | 317 |
| Ortega Pharmaceutical Company | 351 |
| Plyler Financial Services | 352 |
| Ramada Inn | 312 |
| Roche Laboratories | Cover 2, 303, 304, 320, 321, 365, 366, Cover 3, Cover 4 |
| Saint Albans Psychiatric Hospital | 358 |
| Sequoia Group, Inc. | 319 |
| Smith, Kline & French | 339 |
| U.S. Army | 318 |
| Upjohn Company | 340, 341, 342 |
| Willingway, Inc. | 368 |
| Winchester Surgical Supply Company, Winchester-Ritch Surgical Company | 305 |
| Wyeth Laboratories | 360, 361 |

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North Carolina MEDICAL JOURNAL

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Original Articles

- Rauwolfia Serentina Revisited** 401
W. R. Walker, M.D., and
J. L. Mathis, M.D.

- Intensive Plasma Exchange in
Thrombotic Thrombocytopenic
Purpura (TTP)** 403
M. Robert Cooper, M.D., and
John J. Stuart, M.D.

- Office Psychotherapy: Methods and
Indications for Referral** 405
John Ingram Walker, M.D.

Mini-Features

- Toxic Encounters of the Dangerous
Kind—PCP** 407
Ronald B. Mack, M.D.
- North Carolina Medical Curiosities** 408
E. Wayne Massey, M.D.

Editorials

- Heliotropism** 409
- "What is the Monetary Value of
Human Life?"** 401

Practice Management

- Effective Records Management** ... 413

North Carolina Department of Human Resources

- Rural Health Services** 419
Sarah T. Mori

Correspondence

- Familial Ovarian Cancer Registry** .. 420
M. Steven Piver, M.D.

Bulletin Board

- New Members of the State Society** 421
- What? When? Where?** 422
- Auxiliary to the North Carolina
Medical Society** 423
- News Notes from the East Carolina
University School of Medicine** .. 425
- News Notes from the University of
North Carolina-Chapel Hill
School of Medicine and North
Carolina Memorial Hospital** 428
- News Notes from the Duke
University Medical Center** 431
- News Notes from the Bowman Gray
School of Medicine of Wake
Forest University** 437
- American Academy of Family
Physicians** 439
- American College of Cardiology** ... 439
- In Memoriam** 440
- Classified Ads** 441
- Index to Advertisers** 442

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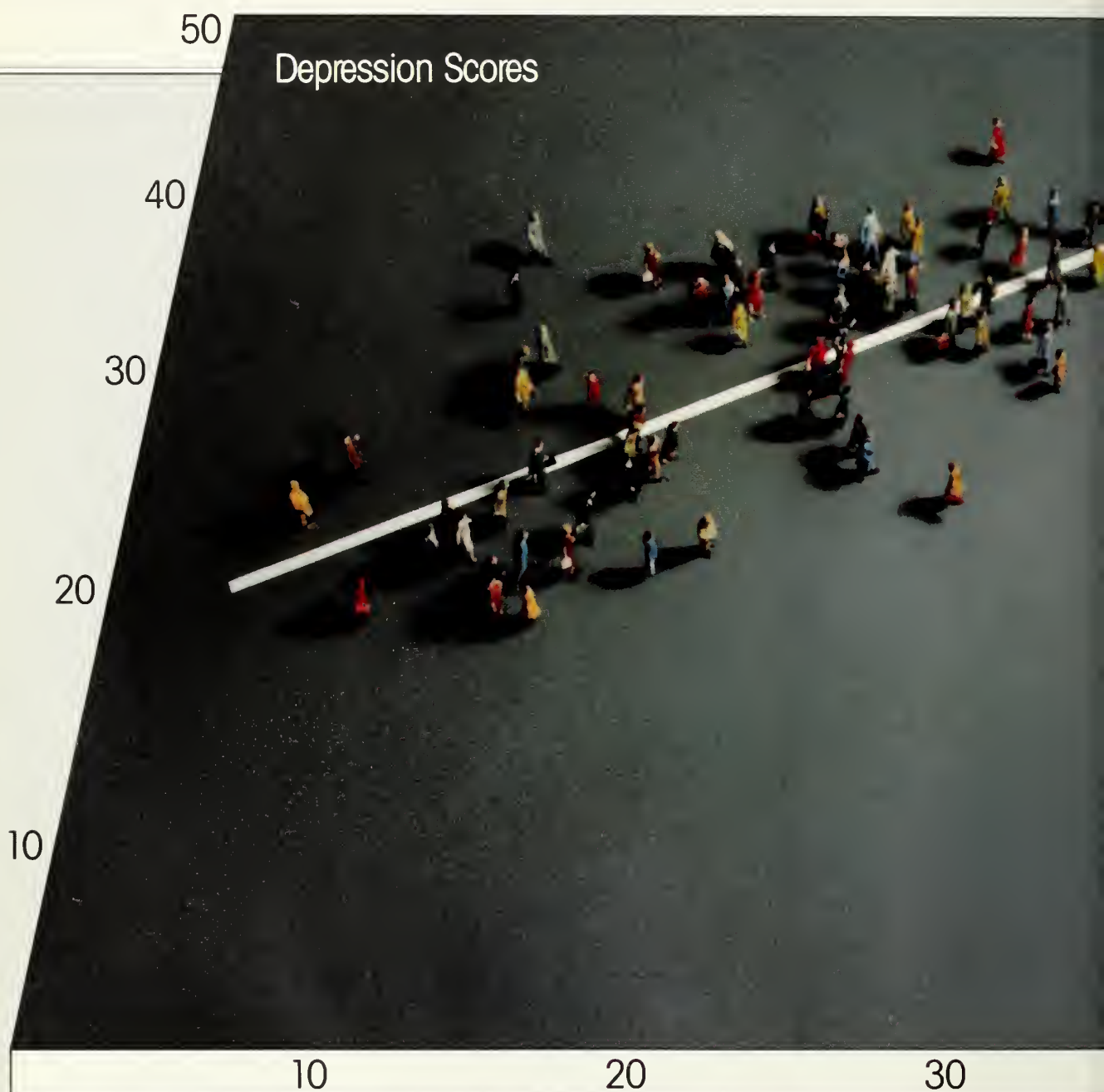
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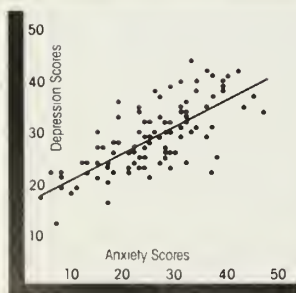
FOR THE 7 OF 10 NONPSYCHOTIC



Clear correlation between anxiety and depression³

The above graph illustrates a relationship between anxiety and depression, indicating that patients seldom present with anxiety or depression alone; more often they have both in varying degrees. Data based on a sampling of 100 outpatients (64 male; 36 female) seen at a general psychiatric clinic.

³Adopted from Cloghorne, J. The anxiety-depression syndrome. *Psychosomatics* 11:438-441, Sept-Oct 1970.



DEPRESSED PATIENTS WHO ARE ALSO ANXIOUS^{1,2}

Most depressed patients are also anxious. . .

Some authors estimate that 70% of all nonpsychotic patients with symptoms of depression have concomitant symptoms of anxiety.^{1,2} One author found a distinct correlation between anxiety and depression scores in 100 nonpsychotic outpatients administered the Minnesota Multiphasic Personality Inventory in a general psychiatric clinic.³ As depression scores increased, so did anxiety scores. No attempt was made to select patients other than to exclude psychotics.

but not psychotic

The logic of treating both components of anxious depression is clear. Antipsychotics, like the phenothiazines, however, carry a well-documented risk of tardive dyskinesia.⁴ Because of this, an APA Task Force recently recommended the judicious use of phenothiazines in cases other than chronic psychosis or the use of alternative treatments.

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Limbitrol combines the specific anxiolytic action of Librium® (chlordiazepoxide HCl/Roche)—a benzodiazepine with a long history of safe use—with the antidepressant action of amitriptyline, a tricyclic of established clinical efficacy. In comparison to phenothiazines, Limbitrol and its components have rarely been associated with tardive dyskinesia or other extrapyramidal side effects. And in terms of rapid response and patient compliance, Limbitrol appears to be superior to amitriptyline alone. Controlled multiclinic studies showed Limbitrol relieved more symptoms more rapidly than did amitriptyline.⁵ Despite a higher incidence of drowsiness, the dropout rate due to side effects was lower with Limbitrol. (See adverse reactions section in summary of product information on next page. As with any CNS-acting agent, patients should be cautioned about driving or using dangerous machines while on therapy with Limbitrol.)

References: 1. Rickels K. Drug treatment of anxiety, in *Psychopharmacology in the Practice of Medicine*, ed. Jarvik ME. New York, Appleton-Century-Crafts, 1977, p. 316. 2. Schatzberg AF, Cole JO. Benzodiazepines in depressive disorders. *Arch Gen Psychiatry* 35:1359-1365, 1978. 3. Claghorn J. The anxiety-depression syndrome. *Psychosomatics* 11:438-441, 1970. 4. The Task Force on Late Neurological Effects of Antipsychotic Drugs: Tardive dyskinesia, summary of a task force report of the American Psychiatric Association. *Am J Psychiatry* 137:1163-1172, 1980. 5. Feighner JP *et al*: A placebo-controlled multicenter trial of Limbitrol versus its components (amitriptyline and chlordiazepoxide) in the symptomatic treatment of depressive illness. *Psychopharmacology* 61:217-225, 1979.

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Contraindications: Known hypersensitivity to benzodiazepines or tricyclic antidepressants. Do not use with monoamine oxidase (MAO) inhibitors or within 14 days following discontinuation of MAO inhibitors since hyperpyretic crises, severe convulsions and deaths have occurred with concomitant use, then initiate cautiously, gradually increasing dosage until optimal response is achieved. Contraindicated during acute recovery phase following myocardial infarction.

Warnings: Use with great care in patients with history of urinary retention or angle-closure glaucoma. Severe constipation may occur in patients taking tricyclic antidepressants and anticholinergic-type drugs. Closely supervise cardiovascular patients (Arrhythmias, sinus tachycardia and prolongation of conduction time reported with use of tricyclic antidepressants, especially high doses. Myocardial infarction and stroke reported with use of this class of drugs.) Caution patients about possible combined effects with alcohol and other CNS depressants and against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving).

Usage in Pregnancy: Use of minor tranquilizers during the first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.

Since physical and psychological dependence to chlordiazepoxide have been reported rarely, use caution in administering Limbitrol to addiction-prone individuals or those who might increase dosage, withdrawal symptoms following discontinuation of either component alone have been reported (nausea, headache and malaise for amitriptyline, symptoms [including convulsions] similar to those of barbiturate withdrawal for chlordiazepoxide).

Precautions: Use with caution in patients with a history of seizures, in hyperthyroid patients or those on thyroid medication, and in patients with impaired renal or hepatic function. Because of the possibility of suicide in depressed patients, do not permit easy access to large quantities in these patients. Periodic liver function tests and blood counts are recommended during prolonged treatment. Amitriptyline component may block action of guanethidine or similar antihypertensives. Concomitant use with other psychotropic drugs has not been evaluated. Sedative effects may be additive. Discontinue several days before surgery. Limit concomitant administration at ECT to essential treatment. See Warnings for precautions about pregnancy. Limbitrol should not be taken during the nursing period. Not recommended in children under 12.

In the elderly and debilitated, limit to smallest effective dosage to preclude ataxia, oversedation, confusion or anticholinergic effects.

Adverse Reactions: Most frequently reported are those associated with either component alone: drowsiness, dry mouth, constipation, blurred vision, dizziness and bloating. Less frequently occurring reactions include vivid dreams, impotence, tremor, confusion and nasal congestion. Many depressive symptoms including anorexia, fatigue, weakness, restlessness and lethargy have been reported as side effects of both Limbitrol and amitriptyline. Granulocytopenia, jaundice and hepatic dysfunction have been observed rarely.

The following list includes adverse reactions not reported with Limbitrol but requiring consideration because they have been reported with one or both components or closely related drugs.

Cardiovascular: Hypotension, hypertension, tachycardia, palpitations, myocardial infarction, arrhythmias, heart block, stroke.

Psychiatric: Euphoria, apprehension, poor concentration, delusions, hallucinations, hypomania and increased or decreased libido.

Neurologic: Incoordination, ataxia, numbness, tingling and paresthesias of the extremities, extrapyramidal symptoms, syncope, changes in EEG patterns.

Anticholinergic: Disturbance of accommodation, paralytic ileus, urinary retention, dilatation of urinary tract.

Allergic: Skin rash, urticaria, photosensitization, edema of face and tongue, pruritus.

Hematologic: Bone marrow depression including agranulocytosis, eosinophilia, purpura, thrombocytopenia.

Gastrointestinal: Nausea, epigastric distress, vomiting, anorexia, stomatitis, peculiar taste, diarrhea, black tongue.

Endocrine: Testicular swelling and gynecomastia in the male, breast enlargement, galactorrhea and minor menstrual irregularities in the female and elevation and lowering of blood sugar levels.

Other: Headache, weight gain or loss, increased perspiration, urinary frequency, mydriasis, jaundice, alopecia, parotid swelling.

Overdosage: Immediately hospitalize patient suspected of having taken an overdose. Treatment is symptomatic and supportive. I.V. administration of 1 to 3 mg physostigmine salicylate has been reported to reverse the symptoms of amitriptyline poisoning. See complete product information for manifestation and treatment.

Dosage: Individualize according to symptom severity and patient response. Reduce to smallest effective dosage when satisfactory response is obtained. Larger portion of daily dose may be taken at bedtime. Single *h.s.* dose may suffice for some patients. Lower dosages are recommended for the elderly. Limbitrol 10-25, initial dosage of three to four tablets daily in divided doses, increased to six tablets or decreased to two tablets daily as required. Limbitrol 5-12.5, initial dosage of three to four tablets daily in divided doses, for patients who do not tolerate higher doses.

How Supplied: White, film-coated tablets, each containing 10 mg chlordiazepoxide and 25 mg amitriptyline (as the hydrochloride salt) and blue, film-coated tablets, each containing 5 mg chlordiazepoxide and 12.5 mg amitriptyline (as the hydrochloride salt). Bottles of 100 and 500, Tel-E-Dose® packages of 100, available in trays of 4 reverse-numbered boxes of 25, and in boxes containing 10 strips of 10. Prescription Paks of 50.

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After one week of penicillin V-K therapy



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Treatment failure was judged to have occurred when lesions increased in size and/or number during the initial week of treatment with penicillin V-K. No treatment failures occurred with Tegopen.

*Data on file, Bristol Laboratories.

Brief Summary of Prescribing Information

TEGOPEN®
(cloxacillin sodium)
Capsules and Oral Solution

For complete information, consult Official Package Circular.

(12) 9/11/75

INDICATIONS:

Although the principal indication for cloxacillin sodium is in the treatment of infections due to penicillinase-producing staphylococci, it may be used to initiate therapy in such patients in whom a staphylococcal infection is suspected. (See Important Note below.)

Bacteriologic studies to determine the causative organisms and their sensitivity to cloxacillin sodium should be performed.

IMPORTANT NOTE

When it is judged necessary that treatment be initiated before definitive culture and sensitivity results are known, the choice of cloxacillin sodium should take into consideration the fact that it has been shown to be effective only in the treatment of infections caused by pneumococci, Group A beta-hemolytic streptococci, and penicillin G-resistant and penicillin G-sensitive staphylococci. If the bacteriology report later indicates the infection is due to an organism other than a penicillin G-resistant staphylococcus sensitive to cloxacillin sodium, the physician is advised to continue therapy with a drug other than cloxacillin sodium or any other penicillinase-resistant semi-synthetic penicillin.

Recent studies have reported that the percentage of staphylococcal isolates resistant to penicillin G outside the hospital is increasing, approximating the high percentage of resistant staphylococcal isolates found in the hospital. For this reason, it is recommended that a penicillinase-resistant penicillin be used as initial therapy for any suspected staphylococcal infection until culture and sensitivity results are known.

Cloxacillin sodium is a compound that acts through a mechanism similar to that of methicillin against penicillin G-resistant staphylococci. Strains of staphylococci resistant to methicillin have existed in nature and it is known that the number of these strains reported has been increasing. Such strains of staphylococci have been capable of producing serious disease, in some instances resulting in fatality. Because of this, there is concern that widespread use of the penicillinase-resistant penicillins may result in the appearance of an increasing number of staphylococcal strains which are resistant to these penicillins.

Methicillin-resistant strains are almost always resistant to all other penicillinase-resistant penicillins (cross-resistance with cephalosporin derivatives also occurs frequently). Resistance to any penicillinase-resistant penicillin should be interpreted as evidence of clinical resistance to all, in spite of the fact that minor variations in *in vitro* sensitivity may be encountered when more than one penicillinase-resistant penicillin is tested against the same strain of staphylococcus.

CONTRAINDICATIONS:

A history of a previous hypersensitivity reaction to any of the penicillins is a contraindication.

RESULTS OF ORAL THERAPY revealed a high percentage of treatment failures with penicillin V potassium, but *no* failures with Tegopen.

| | | Given Tegopen® (cloxacillin sodium) | Given penicillin V-K |
|---|---------------------|--|-------------------------|
| <i>Staphylococcus aureus</i> | (78 patients) | 39 | 39 |
| Returned to clinic at one week | | 29† | 38† |
| Treatment failure at one week | | 0 | 18 (47.4%) |
| <i>Staphylococcus aureus</i> and <i>Streptococcus pyogenes</i> | (9 patients) | 4 | 5 |
| Returned to clinic at one week | | 4 | 5 |
| Treatment failure at one week | | 0 | 2 (40%) |
| No initial bacterial growth | (14 patients) | 9 | 5 |
| All 14 healed, regardless of which antibiotic was administered. | | | |
| Beta-hemolytic <i>Streptococcus</i> | (1 patient) | 0 | 1 |
| TOTALS: | 102 patients | 52 patients | 50 patients |

†Eleven patients did not return for their one-week checkup. These were all called by telephone, and their families reported

the lesions had healed. One patient was dropped from the study, early, because of adverse reaction to medication.

STUDY: DESCRIPTION/PROTOCOL

- 102 nonselected subjects, with initial bacteriology as follows: 77% *Staphylococcus aureus*, 9% mixed *Staphylococcus aureus* and *Streptococcus pyogenes*, and 1% beta-hemolytic *Streptococcus*.†
- All patients were given randomized therapy—Tegopen capsules or oral solution, or penicillin V-K tablets or oral solution, in recommended dosages according to body weight.

- All patients were evaluated after one week's therapy. If there was no improvement, therapy was switched to the other antibiotic. The "other antibiotic" proved to be Tegopen 100% of the time because no treatment failures had occurred with Tegopen.
- A final assessment of progress was made two weeks after initiation of Tegopen therapy.

†The remainder, to equal 100%, consisted of 14 patients (13%) who exhibited no initial bacterial growth; These 14 were all healed, whether given Tegopen or penicillin V-K.

TEGOPEN®

(cloxacillin sodium)

-effective therapy for staph infections of the skin and skin structures

WARNING:

Serious and occasionally fatal hypersensitivity (anaphylactoid) reactions have been reported in patients on penicillin therapy. Although anaphylaxis is more frequent following parenteral therapy it has occurred in patients on oral penicillins. These reactions are more apt to occur in individuals with a history of sensitivity to multiple allergens.

There have been well documented reports of individuals with a history of penicillin hypersensitivity reactions who have experienced severe hypersensitivity reactions when treated with a cephalosporin. Before therapy with a penicillin, careful inquiry should be made concerning previous hypersensitivity reactions to penicillins, cephalosporins, and other allergens. If an allergic reaction occurs, the drug should be discontinued and the patient treated with the usual agents, e.g., pressor amines, antihistamines, and corticosteroids.

Safety for use in pregnancy has not been established.

PRECAUTIONS:

The possibility of the occurrence of superinfections with mycotic organisms or other pathogens should be kept in mind when using this compound, as with other antibiotics. If superinfection occurs during therapy, appropriate measures should be taken.

As with any potent drug, periodic assessment of organ system function, including renal, hepatic, and hematopoietic, should be made during long-term therapy.

ADVERSE REACTIONS:

Gastrointestinal disturbances, such as nausea, epigastric discomfort, flatulence, and loose

stools, have been noted by some patients. Mildly elevated SGOT levels (less than 100 units) have been reported in a few patients for whom pretherapeutic determinations were not made. Skin rashes and allergic symptoms, including wheezing and sneezing, have occasionally been encountered. Eosinophilia, with or without overt allergic manifestations, has been noted in some patients during therapy.

USUAL DOSAGE:

Adults: 250 mg. q.6h.

Children: 50 mg./Kg./day in equally divided doses q.6h. Children weighing more than 20 Kg. should be given the adult dose. Administer on empty stomach for maximum absorption.

N.B.: INFECTIONS CAUSED BY GROUP A BETA-HEMOLYTIC STREPTOCOCCI SHOULD BE TREATED FOR AT LEAST 10 DAYS TO HELP PREVENT THE OCCURRENCE OF ACUTE RHEUMATIC FEVER OR ACUTE GLOMERULONEPHRITIS.

SUPPLIED:

Capsules—250 mg. in bottles of 100. 500 mg. in bottles of 100.
Oral Solution—125 mg./5 ml. in 100 ml. and 200 ml. bottles.

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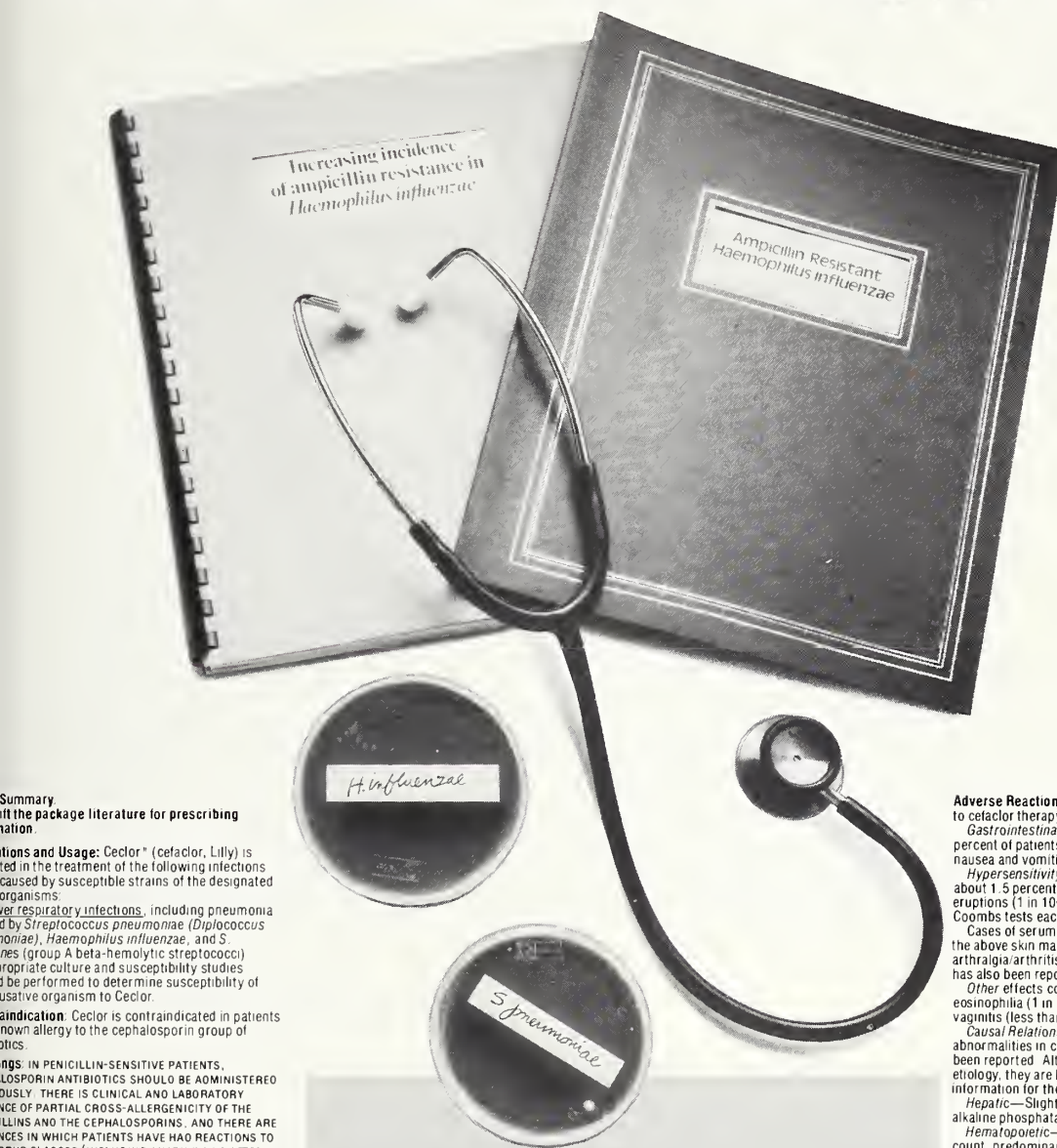
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An added complication... in the treatment of bacterial bronchitis*



Summary
with the package literature for prescribing
nation.

Indications and Usage: Cefclor® (cefclor, Lilly) is
indicated in the treatment of the following infections
caused by susceptible strains of the designated
organisms:

Upper respiratory infections, including pneumonia
caused by *Streptococcus pneumoniae* (*Diplococcus
pneumoniae*), *Haemophilus influenzae*, and *S.
pyogenes* (group A beta-hemolytic streptococci).
Appropriate culture and susceptibility studies
should be performed to determine susceptibility of
the causative organism to Cefclor.

Contraindication: Cefclor is contraindicated in patients
with known allergy to the cephalosporin group of
antibiotics.

Warnings: IN PENICILLIN-SENSITIVE PATIENTS,
CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED
CAUTIOUSLY. THERE IS CLINICAL AND LABORATORY
EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF THE
PENICILLINS AND THE CEPHALOSPORINS, AND THERE ARE
CASES IN WHICH PATIENTS HAVE HAD REACTIONS TO
DRUG CLASSES (INCLUDING ANAPHYLAXIS AFTER
THERAPEUTIC USE).

Precautions: Cefclor, including Cefclor, should be administered
cautiously to any patient who has demonstrated some
type of allergy, particularly to drugs.

Adverse Reactions: If an allergic reaction to cefclor occurs,
the drug should be discontinued, and, if necessary, the
patient should be treated with appropriate agents, e.g.,
antihistamines, anticholinergics, or corticosteroids.
Prolonged use of cefclor may result in the
growth of nonsusceptible organisms. Careful
monitoring of the patient is essential. If superinfection
occurs during therapy, appropriate measures should
be taken.

Diagnostic Tests: Positive direct Coombs tests have been reported
in patients treated with the cephalosporin antibiotics. In
diagnostic studies or in transfusion cross-matching
studies when antiglobulin tests are performed on
serum from patients on cefclor, a false-positive result
may occur. In Coombs testing of newborns
whose mothers have received cephalosporin antibiotics
during pregnancy, it should be recognized that a
false-positive Coombs test may be due to the drug.

Use in Pregnancy: Cefclor should be administered with caution in the
presence of markedly impaired renal function. Under
these conditions, careful clinical observation and
diagnostic studies should be made because safe
dosage may be lower than that usually recommended.
As a result of administration of Cefclor, a false-
positive reaction for glucose in the urine may occur
as has been observed with Benedict's and Fehling's
solutions and also with Clinistest® tablets but not with
Glucose Enzymatic Test Strips (USP, Lilly).
Use in Pregnancy: Although no teratogenic or
fetal effects were seen in reproduction studies
in rats receiving up to 12 times the
maximum human dose or in ferrets given three times
the maximum human dose, the safety of this drug for
human pregnancy has not been established.
Use in Pregnancy: The benefits of the drug in pregnant women should
be weighed against a possible risk to the fetus.
Use in Infancy: Safety of this product for use in
children less than one month of age has not been
established.

**Some ampicillin-resistant strains of
Haemophilus influenzae—a recognized
complication of bacterial bronchitis*—are
sensitive to treatment with Cefclor.^{1,6}**

In clinical trials, patients with bacterial bronchitis
due to susceptible strains of *Streptococcus
pneumoniae*, *H. influenzae*, *S. pyogenes*
(group A beta-hemolytic streptococci), or multiple
organisms achieved a satisfactory clinical
response with Cefclor.⁷

Cefclor®

cefclor

Pulvules®, 250 and 500 mg

Adverse Reactions: Adverse effects considered related
to cefclor therapy are uncommon and are listed below:
Gastrointestinal symptoms occur in about 2.5
percent of patients and include diarrhea (1 in 70) and
nausea and vomiting (1 in 90).

Hypersensitivity reactions have been reported in
about 1.5 percent of patients and include morbilliform
eruptions (1 in 100). Pruritus, urticaria, and positive
Coombs tests each occur in less than 1 in 200 patients.
Cases of serum-sickness-like reactions, including
the above skin manifestations, fever, and
arthralgia/arthritis, have been reported. Anaphylaxis
has also been reported.

Other effects considered related to therapy included
eosinophilia (1 in 50 patients) and genital pruritus or
vaginitis (less than 1 in 100 patients).

Causal Relationship Uncertain: Transitory
abnormalities in clinical laboratory test results have
been reported. Although they were of uncertain
etiology, they are listed below to serve as alerting
information for the physician.

Hepatic: Slight elevations in SGOT, SGPT, or
alkaline phosphatase values (1 in 40).

Hematopoietic: Transient fluctuations in leukocyte
count, predominantly lymphocytosis occurring in
infants and young children (1 in 40).

Renal: Slight elevations in BUN or serum
creatinine (less than 1 in 500) or abnormal urinalysis
(less than 1 in 200).

[1030800E]

*Many authorities attribute acute infectious
exacerbation of chronic bronchitis to either *S.
pneumoniae* or *H. influenzae*.

Note: Cefclor (cefclor) is contraindicated in patients
with known allergy to the cephalosporins and should
be given cautiously to penicillin-allergic patients.

Penicillin is the usual drug of choice in the treatment
and prevention of streptococcal infections, including
the prophylaxis of rheumatic fever. See prescribing
information.

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Equagesic[®]

(meprobamate and ethoheptazine citrate with aspirin) Wyeth

Twofold analgesic action teamed with time-proven efficacy against concurrent anxiety and tension in patients with musculoskeletal disease.*

INDICATIONS: Abbreviated Summary

Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the indications as follows:

Possibly effective: for the treatment of pain accompanied by tension and/or anxiety in patients with musculoskeletal disease or tension headache.

Final classification: of the less-than-effective indications requires further investigation. The effectiveness of Equagesic in long-term use, i.e., more than four months, has not been assessed by systematic clinical studies. The physician should periodically reassess usefulness of the drug for the individual patient.

CONTRAINDICATIONS: Equagesic should not be given to individuals with a history of sensitivity or severe intolerance to aspirin, meprobamate, or ethoheptazine citrate.

WARNINGS: Careful supervision of dose and amounts prescribed for patients is advised, especially with those patients with known propensity for taking excessive quantities of drugs excessively and prolonged use in susceptible persons, e.g., alcoholics, former addicts, and other severe psychoneurotics. The effectiveness of Equagesic has been reported to be reduced gradually if the drug is abruptly stopped, since withdrawal of a "crutch" may precipitate withdrawal reaction of greater proportions than that for which the drug was originally prescribed. Abrupt discontinuance of doses in excess of the recommended dose has resulted in some cases in the occurrence of epileptiform seizures.

Special care: should be taken to warn patients taking meprobamate that tolerance to alcohol may be lowered with resultant slowing of reaction time and impairment of judgment and coordination.

USE IN PREGNANCY AND LACTATION: An increased risk of congenital malformations associated with the use

of minor tranquilizers (meprobamate, chlordiazepoxide, and diazepam) during the first trimester of pregnancy has been suggested in several studies. Because use of these drugs is rarely a matter of urgency, their use during this period should almost always be avoided. The possibility that a woman of child-bearing potential may be pregnant at the time of institution of therapy should be considered. Patients should be advised that if they become pregnant during therapy or intend to become pregnant they should communicate with their physicians about the desirability of discontinuing the drug.

Meprobamate passes the placental barrier. It is present both in umbilical-cord blood at or near maternal plasma levels and in breast milk of lactating mothers at concentrations two to four times that of maternal plasma. When use of meprobamate is contemplated in breast-feeding patients, the drug's higher concentration in breast milk as compared to maternal plasma levels should be considered.

Preparations containing aspirin should be kept out of the reach of children. Equagesic is not recommended for patients 12 years of age and under.

PRECAUTIONS: Should drowsiness, ataxia, or visual disturbance occur, the dose should be reduced. If symptoms continue, patients should not operate a motor vehicle or any dangerous machinery.

Suicidal attempts with meprobamate have resulted in coma, shock, vasomotor and respiratory collapse, and anuria. Very few suicidal attempts were fatal, although some patients ingested very large amounts of the drug (20 to 40 gm). These doses are much greater than recommended. The drug should be given cautiously and in small amounts, to patients who have suicidal tendencies. In cases where excessive doses have been taken, sleep ensues rapidly and blood pressure, pulse, and respiratory rates are reduced to basal levels. Hyperventilation has been reported occasionally. Any drug remaining in the stomach should be removed and symptomatic treatment given. Should respiration become very shallow and slow, CNS stimulants, e.g., caffeine, Metrazol, or amphet-

amine, may be cautiously administered. If severe hypotension develops, pressor amines should be used parenterally to restore blood pressure to normal levels.

ADVERSE REACTIONS: A small percentage of patients may experience nausea with or without vomiting and epigastric distress. Dizziness occurs rarely when meprobamate and ethoheptazine citrate with aspirin is administered in recommended dosage. The meprobamate may cause drowsiness but, as a rule, this disappears as therapy is continued. Should drowsiness persist and be associated with ataxia, this symptom can usually be controlled by decreasing the dose, but occasionally it may be desirable to administer central stimulants such as amphetamine or mephentermine sulfate concomitantly to control drowsiness.

A clearly related side effect to the administration of meprobamate is the rare occurrence of allergic or idiosyncratic reactions. This response develops, as a rule, in patients who have had only 1-4 doses of meprobamate and have not had a previous contact with the drug. Previous history of allergy may or may not be related to the incidence of reactions.

Mild reactions are characterized by an itchy urticarial or erythematous, maculopapular rash which may be generalized or confined to the groin. Acute nonthrombocytopenic purpura with cutaneous petechiae, ecchymoses, peripheral edema, and fever have also been reported.

More severe cases, observed only very rarely, may also have other allergic responses, including fever, fainting spells, angioneurotic edema, bronchial spasms, hypotensive crises (1 fatal case), anaphylaxis, stomatitis and proctitis (1 case), and hyperthermia. Treatment should be symptomatic such as administration of epinephrine, antihistamine, and possibly hydrocortisone. Meprobamate should be stopped, and reinstitution of therapy should not be attempted.

Rare cases have been reported where patients receiving meprobamate suffered from aplastic anemia (1 fatal case), thrombocytopenic purpura, agranulocytosis, and hemolytic anemia. In nearly every instance reported, other toxic agents known to have caused these conditions have been associated with meprobamate. A few cases of leukopenia during

continuous administration of meprobamate are reported, most of these returned to normal without discontinuation of the drug.

Impairment of accommodation and visual acuity has been reported rarely.

OVERDOSE: Two instances of accidental or intentional significant overdose with ethoheptazine citrate combined with aspirin have been reported. These were accompanied by symptoms of CNS depression, including drowsiness and light-headedness, with uneventful recovery. However, on the basis of pharmacological data, it may be anticipated that CNS stimulation could occur. Other anticipated symptoms would include nausea and vomiting. Appropriate therapy of signs and symptoms as they appear is the only recommendation possible at this time. Overdose with ethoheptazine combined with aspirin would probably produce the usual symptoms and signs of salicylate intoxication. Observation and treatment should include induced vomiting or gastric lavage, specific parenteral electrolyte therapy for ketoacidosis and dehydration, watching for evidence of hemorrhagic manifestations due to hypoprothrombinemia which, if it occurs, usually requires whole-blood transfusions.

DESCRIPTION: Each Equagesic tablet contains 150 mg meprobamate, 75 mg ethoheptazine citrate and 250 mg aspirin.

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*This drug has been evaluated as possibly effective for this indication.

Wyeth Laboratories
Philadelphia, PA 19101





Down with pain

Step up to reliable relief

for mild to moderate pain

Wygesic[®]

(65 mg propoxyphene HCl and 650 mg acetaminophen) Wyeth

More than twice as much acetaminophen as the leading combination plus a full therapeutic dose of propoxyphene...all in a convenient, economical single tablet.

WYGESIC—Abbreviated Summary

INDICATION: For the relief of mild-to-moderate pain.

CONTRAINDICATION: Hypersensitivity to propoxyphene or to acetaminophen.

WARNINGS: CNS ADDITIVE EFFECTS AND OVERDOSE. Propoxyphene in combination with alcohol, tranquilizers, sedative-hypnotics, or other CNS depressants has an additive depressant effect. Patients taking this drug should be advised of the additive effect and warned not to exceed the dosage recommended. Toxic effects and fatalities have occurred following overdoses of propoxyphene alone or in combination with other CNS depressants. Most of these patients had histories of emotional disturbances or suicidal ideation or attempts, as well as misuse of tranquilizers, alcohol, or other CNS active drugs. Caution should be exercised in prescribing large amounts of propoxyphene for such patients (see **Management of Overdosage**).

DRUG DEPENDENCE: Propoxyphene can produce drug dependence characterized by psychic dependence and less frequently physical dependence and tolerance. It will only partially suppress the withdrawal syndrome in individuals physically dependent on morphine or other narcotics. The abuse liability of propoxyphene is qualitatively similar to codeine's although quantitatively less, and propoxyphene should be prescribed with the same degree of caution appropriate to the use of codeine.

USAGE IN AMBULATORY PATIENTS: Propoxyphene may impair the mental and/or physical abilities required for potentially hazardous tasks, e.g. driving a car or operating machinery. Patients should be cautioned accordingly.

USAGE IN PREGNANCY: Safe use in pregnancy has not been established relative to possible adverse effects on fetal development. **INSTANCES OF WITHDRAWAL SYMPTOMS IN THE NEONATE HAVE BEEN REPORTED FOLLOWING USAGE DURING PREGNANCY.** Therefore propoxyphene should not be used in pregnant women unless in the

judgement of the physician, the potential benefits outweigh the possible hazards.

USAGE IN CHILDREN: Propoxyphene is not recommended for children because documented clinical experience has been insufficient to establish safety and a suitable dosage regimen in the pediatric group.

PRECAUTIONS: Confusion, anxiety, and tremors have been reported in a few patients receiving propoxyphene concomitantly with orphenadrine. The CNS depressant effect of propoxyphene may be additive with other CNS depressants, including alcohol.

ADVERSE REACTIONS: The most frequent adverse reactions are dizziness, sedation, nausea, and vomiting. These seem more prominent in ambulatory than in nonambulatory patients; some of these reactions may be alleviated if the patient lies down.

Other adverse reactions include constipation, abdominal pain, skin rashes, light-headedness, headache, weakness, euphoria, dysphoria, and minor visual disturbances. The chronic ingestion of propoxyphene in doses over 600 mg per day has caused toxic psychoses and convulsions. Cases of liver dysfunction have been reported.

DRUG INTERACTIONS: Propoxyphene in combination with alcohol, tranquilizers, sedative-hypnotics, and other CNS depressants has an additive depressant effect. Patients taking this drug should be advised of the additive effect and warned not to exceed the dosage recommended (see **Warnings**). Confusion, anxiety, and tremors have been reported in a few patients receiving propoxyphene concomitantly with orphenadrine.

MANAGEMENT OF OVERDOSAGE SYMPTOMS: The manifestations of serious overdosage with propoxyphene are similar to those of narcotic overdosage and include respiratory depression (a decrease in respiratory rate and/or tidal volume, Cheyne-Stokes respiration, cyanosis), extreme somnolence progressing to stupor or coma, pupillary constriction, and circulatory collapse. In addition to these characteristics, which are reversed by narcotic antago-

nists such as naloxone, there may be other effects. Overdoses of propoxyphene can cause delay of cardiac conduction as well as focal or generalized convulsions, a prominent feature in most cases of severe poisoning. Cardiac arrhythmias and pulmonary edema have occasionally been reported, and apnea, cardiac arrest, and death have occurred.

Symptoms of massive overdosage with acetaminophen may include nausea, vomiting, anorexia, and abdominal pain, beginning shortly after ingestion and lasting for 12 to 24 hours. However, early recognition may be difficult since early symptoms may be mild and nonspecific. Evidence of liver damage is usually delayed. After the initial symptoms, the patient may feel less ill; however, laboratory determinations are likely to show a rapid rise in liver enzymes and bilirubin. In case of serious hepatotoxicity, jaundice, coagulation defects, hypoglycemia, encephalopathy, coma, and death may follow. Renal failure due to tubular necrosis, and myocardialopathy, have also been reported.

Ingestion of 10 grams or more of acetaminophen may produce hepatotoxicity. A 13-gram dose has reportedly been fatal.

TREATMENT: Primary attention should be given to the reestablishment of adequate respiratory exchange through provision of a patent airway and institution of assisted or controlled ventilation. The narcotic antagonists, naloxone, nalorphine, and levallorphan, are specific antidotes against the respiratory depression produced by propoxyphene. An appropriate dose of one of these antagonists should be administered preferably I.V., simultaneously with efforts at respiratory resuscitation and the antagonist should be repeated as necessary until the patient's condition remains satisfactory. In addition to a narcotic antagonist, the patient may require careful titration with an anticonvulsant to control seizures. Analeptic drugs (e.g. caffeine or amphetamine) should not be used because of their tendency to precipitate convulsions.

Oxygen, IV fluids, vasopressors, and other supportive measures should be used as indicated. Gastric lavage may be helpful. Activated charcoal can adsorb a significant amount of ingested propoxyphene. Dialysis is of little value in poisoning by propoxyphene alone. Acetaminophen is rapidly absorbed and efforts to remove the drug from the body should not be delayed. Copious gastric lavage and/or induction of emesis may be indicated. Activated charcoal is probably ineffective unless administered immediately after acetaminophen ingestion. Neither forced diuresis nor hemodialysis appears to be effective in removing acetaminophen. Since acetaminophen in overdose may have an antidiuretic effect and may produce renal damage, administration of fluids should be carefully monitored to avoid overload. It has been reported that mercaptamine (cysteine) or other thiol compounds may protect against liver damage if given soon after overdosage (8 hours). N-acetylcysteine is under investigation as a less toxic alternative to mercaptamine, which may cause anorexia, nausea, vomiting, and drowsiness. Appropriate literature should be consulted for further information (JAMA 237:2406-2407, 1977). Clinical and laboratory evidence of hepatotoxicity may be delayed up to one week. Acetaminophen plasma levels and half-life may be useful in assessing the likelihood of hepatotoxicity. Serial hepatic enzyme determinations are also recommended.

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PRESIDENT'S NEWSLETTER

NORTH CAROLINA MEDICAL SOCIETY

O. 1

JUNE 1981

Dear Colleagues:

Several attempts to begin this first "Newsletter" have proved that there truly are no words which really express the depth of my gratitude for the tremendous honor which you have bestowed on me, by electing me President of the North Carolina Medical Society. You do me great honor by entrusting this Society to my leadership for the coming year. I shall need your help, your goodwill and your affection. In return, I shall give you my very best effort.

The past two weeks have been exceptionally busy. On May 16 and 17, I attended the Annual Meeting of the North Carolina State Society of the American Association of Medical Assistants, Inc., in Wilmington, North Carolina. As they requested, I attempted to give them an update on political activities as they currently impact medical professionals. Much to my delight, I found them to be extremely well-informed on current events--even on the most recent legislative activities. The beautiful orchid, which they presented me, completely wilted under the fervor of their questions and interest. Many of your employees attended and have probably told you of that Society's excellent continuing education programs.

The on-going session of the Legislature has kept us on the run--while looking over our shoulders! There are many issues now being pondered by our Legislators which impact the practice of medicine. Senate Bill 411 seeks to redefine the practice of chiropractic to include the spine and "other articulations" (the entire body?), physical examinations, laboratory examinations, etc., while declaring "The chiropractic physician is a primary health care provider". The North Carolina Medical Society will take a firm stand! Please call your legislators!

There seems eminent a compromise on the Midwifery Bill, entitled "Proposed Committee Substitute for House Bill 695". The substitute bill embraces a study of the safety and efficacy of out-of-hospital delivery, for a period of two years, to be reported to the 1983 Session of the General Assembly. Present language also states:

"130-187 Regulation of Midwives - No person shall practice midwifery in this State without a permit granted by the Department of Human Resources and under the supervision of a physician licensed to practice medicine. The Department shall issue a permit to only those applicants who possess certification from the American College of Nurse-Midwives and who otherwise demonstrate sufficient training, experience, and good character. No such permit shall be in effect after July 1, 1983."

In mid-June, Don C. Chaplin (Chairman, Committee on Legislation), John L. McCain (Commissioner, Public Relations), Joseph D. Russell (Chairman, Committee on Social Services), Anna M. Hoffman (Chairman, Committee on Aging), and I shall visit with Governor James B. Hunt, Jr., Dr. Sarah T. Morrow (Secretary, Department of Human Resources) and Barbara D. Stula (Director, Division of Medical Assistance). While on this friendly visit, we shall try to learn as much as possible concerning the future of the North Carolina Medicaid Program. Perhaps, by that time, the Administration will have concrete facts concerning the impending budget cuts levied from Washington, D.C., as well as how those cuts in the Medicaid budget will impact health care in North Carolina.

June 5 through June 11, the Delegates and Officers of the North Carolina Medical Society will attend the Annual Meeting of the American Medical Association. As you know, we have two excellent candidates for AMA Leadership. Past-President James E. Davis is a candidate for Vice-Speaker of the AMA House of Delegates while Past-President E. Harvey Estes, Jr., is a candidate for membership on the Council on Scientific Affairs. We believe both our colleagues to be as well qualified as any physicians in the nation for the respective position which each seeks. We wish them success in their ventures and shall surely support each of them in every way possible.

We understand that the Senate Human Resources Committee, chaired by Senator Ollie Harr has scheduled a hearing on Senate Bill 578, on June 4. SB 578, the Optometric Drug Use Law Repeal, is of major importance to every member of the North Carolina Medical Society. The 1977 bill permits optometrists to prescribe drugs for diagnostic and therapeutic purposes, after "communication and collaboration" with a physician licensed to practice medicine. We believe that this portion of the bill is either poorly understood or ignored because such communication and collaboration is often omitted. In the interests of quality medical care, the responsibility for diagnosis and treatment of serious eye disease must be the responsibility of appropriately trained licensed physicians-ophthalmologists. The Optometric Drug Use Law Repeal Bill was introduced by Senator Hancock (Durham) at the urgent request of the North Carolina Medical Society and the North Carolina Society of Ophthalmology. Successful passage of this bill is dependent on the total support of every physician in North Carolina. If you have not already contacted your Legislators, RUN--DON'T WALK--to the telephone!

Letters of appointments to Commissions and Committees, 1981-1982 are expected to be sent during the week of June 1-5. Delay has been due to the tremendous amount of Headquarters work generated by the Annual Meeting, Legislative activity and the AMA campaigns for Jim Davis and Harvey Estes. I do hope that each physician will accept his/her appointment and help shoulder the load. By working together in unity, we can continue to have the best State Society in the Nation. The Committee Conclave is scheduled for September 23-26, Mid Pines Club, Southern Pines, North Carolina. Please MARK YOUR CALENDAR and plan to BE THERE. We can only succeed if YOU participate! Commission and Committee Listing should appear in the July issue of the North Carolina Medical Journal.

As you can well imagine, the needs and services of the North Carolina Medical Society have undergone the changes of time, society, and technological advance. At the urging of the membership and Headquarters Staff, the Executive Council voted to contract a management study by a nationally known firm, Booz-Allen and Hamilton, Inc., of Atlanta, Georgia. The management study was completed in April 1981. An audio-visual presentation was presented to the Executive Council, Personnel and Headquarters Operation Committee, and the Council on Review and Development on May 6, 1981. A written report was received on May 14, 1981. By direction of the Executive Council, the management study report will be carefully reviewed by the Committee on Personnel and Headquarters Operation. Final results of the deliberations of this committee will be submitted to the Executive Council at its September 1981 meeting. Rest assured, I shall keep you informed of any actions which occur as a result of this management study.

I am writing this letter on Saturday night, May 30, 1981. Having been President exactly three (3) weeks, the deadline for this letter is Monday, June 1. As you see, I've already "toed the mark" and I've tried to relate to you what has transpired during these three weeks. Please let me hear from you as to what type of information you would like to have included in this monthly newsletter. I mean to represent the membership but can only do so if I hear from you. Be active -- PARTICIPATE!

My best to your and your family,


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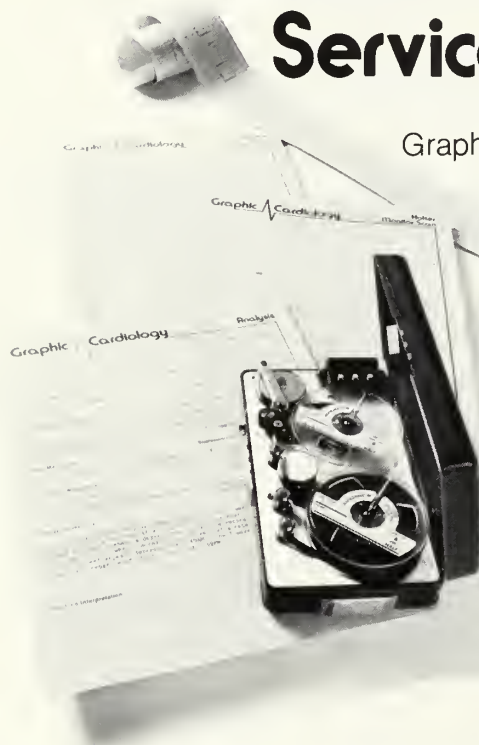
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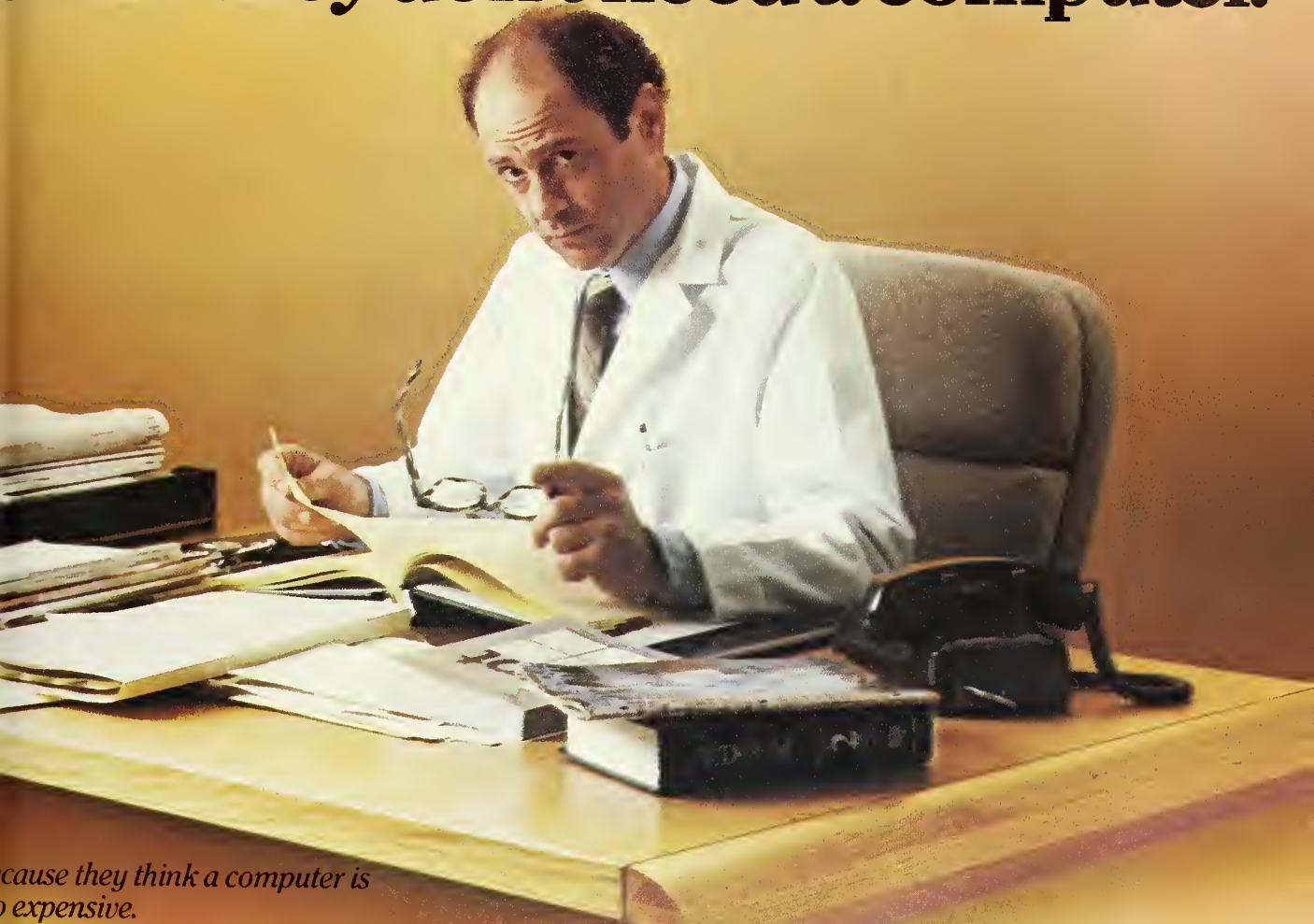
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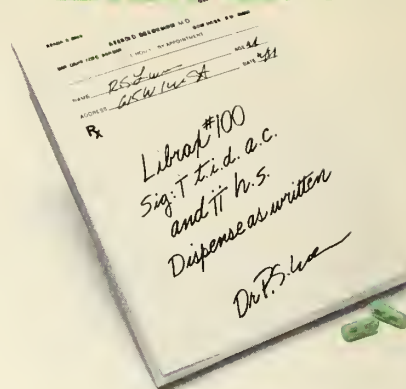
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Usage in Pregnancy: Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy. Advise patients to discuss therapy if they intend to or do become pregnant.

As with all anticholinergics, inhibition of lactation may occur

Precautions: In elderly and debilitated, limit dosage to smallest effective amount to preclude ataxia, oversedation, confusion (no more than 2 capsules/day initially; increase gradually as needed and tolerated). Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider pharmacology of agents, particularly potentiating drugs such as MAO inhibitors, phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions reported in psychiatric patients. Employ usual precautions in treating anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation reported very rarely in patients receiving the drug and oral anticoagulants, causal relationship not established

Adverse Reactions: No side effects or manifestations not seen with either compound alone reported with Librax. When chlordiazepoxide HCl is used alone, drowsiness, ataxia, confusion may occur, especially in elderly and debilitated, avoidable in most cases by proper dosage adjustment, but also occasionally observed at lower dosage ranges. Syncope reported in a few instances. Also encountered isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent, generally controlled with dosage reduction, changes in EEG patterns may appear during and after treatment, blood dyscrasias (including agranulocytosis), jaundice, hepatic dysfunction reported occasionally with chlordiazepoxide HCl, making periodic blood counts and liver function tests advisable during protracted therapy. Adverse effects reported with Librax typical of anticholinergic agents, i.e., dryness of mouth, blurring of vision, urinary hesitancy, constipation. Constipation has occurred most often when Librax therapy is combined with other spasmolytics and/or low residue diets



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Many patients, on the other hand, present with excess fat but no disease. While this condition is often termed uncomplicated obesity, complications of both a social and a psychologic nature may be distressingly real for the patients. In these cases, a short-term regimen of Tenuate can help reinforce your dietary counsel during the important early weeks of an indicated weight loss program.

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Brief Summary

INDICATION: Tenuate and Tenuate Dospan are indicated in the management of exogenous obesity as a short-term adjunct (a few weeks) in a regimen of weight reduction based on caloric restriction. The limited usefulness of agents of this class should be measured against possible risk factors inherent in their use such as those described below.

CONTRAINDICATIONS: Advanced arteriosclerosis, hyperthyroidism, known hypersensitivity, or idiosyncrasy to the sympathomimetic amines, glaucoma. Agitated states. Patients with a history of drug abuse. During or within 14 days following the administration of monoamine oxidase inhibitors, (hypertensive crises may result).

WARNINGS: If tolerance develops, the recommended dose should not be exceeded in an attempt to increase the effect; rather, the drug should be discontinued. Tenuate may impair the ability of the patient to engage in potentially hazardous activities such as operating machinery or driving a motor vehicle; the patient should therefore be cautioned accordingly. *Drug Dependence:* Tenuate has some chemical and pharmacologic similarities to the amphetamines and other related stimulant drugs that have been extensively abused. There have been reports of subjects becoming psychologically dependent on diethylpropion. The possibility of abuse should be kept in mind when evaluating the desirability of including a drug as part of a weight reduction program. Abuse of amphetamines and related drugs may be associated with varying degrees of psychologic dependence and social dysfunction which, in the case of certain drugs, may be severe. There are reports of patients who have increased the dosage to many times that recommended. Abrupt cessation following prolonged high dosage administration results in extreme fatigue and mental depression; changes are also noted on the sleep EEG. Manifestations of chronic intoxication with anorectic drugs include severe dermatoses, marked insomnia, irritability, hyperactivity, and personality changes. The most severe manifestation of chronic intoxications is psychosis, often clinically indistinguishable from schizophrenia. *Use in Pregnancy:* Although rat and human reproductive studies have not indicated adverse effects, the use of Tenuate by women who are pregnant or may become pregnant requires that the potential benefits be weighed against the potential risks. *Use in Children:* Tenuate is not recommended for use in children under 12 years of age.

PRECAUTIONS: Caution is to be exercised in prescribing Tenuate for patients with hypertension or with symptomatic cardiovascular disease, including arrhythmias. Tenuate should not be administered to patients with severe hypertension. Insulin requirements in diabetes mellitus may be altered in association with the use of Tenuate and the concomitant dietary regimen. Tenuate may decrease the hypotensive effect of guanethidine. The least amount feasible should be prescribed or dispensed at one time in order to minimize the possibility of overdose. Reports suggest that Tenuate may increase convulsions in some epileptics. Therefore, epileptics receiving Tenuate should be carefully monitored. Titration of dose or discontinuance of Tenuate may be necessary.

ADVERSE REACTIONS: *Cardiovascular:* Palpitation, tachycardia, elevation of blood pressure, precordial pain, arrhythmia. One published report described T-wave changes in the ECG of a healthy young male after ingestion of diethylpropion hydrochloride. *Central Nervous System:* Overstimulation, nervousness, restlessness, dizziness, jitteriness, insomnia, anxiety, euphoria, depression, dysphoria, tremor, dyskinesia, mydriasis, drowsiness, malaise, headache; rarely psychotic episodes at recommended doses. In a few epileptics an increase in convulsive episodes has been reported. *Gastrointestinal:* Dryness of the mouth, unpleasant taste, nausea, vomiting, abdominal discomfort, diarrhea, constipation, other gastrointestinal disturbances. *Allergic:* Urticaria, rash, ecchymosis, erythema. *Endocrine:* Impotence, changes in libido, gynecomastia, menstrual upset. *Hematopoietic System:* Bone marrow depression, agranulocytosis, leukopenia. *Miscellaneous:* A variety of miscellaneous adverse reactions has been reported by physicians. These include complaints such as dyspnea, hair loss, muscle pain, dysuria, increased sweating, and polyuria.

DOSAGE AND ADMINISTRATION: Tenuate (diethylpropion hydrochloride): One 25 mg. tablet three times daily, one hour before meals, and in mid-evening if desired to overcome night hunger. Tenuate Dospan (diethylpropion hydrochloride) controlled-release: One 75 mg. tablet daily, swallowed whole, in mid-morning. Tenuate is not recommended for use in children under 12 years of age.

OVERDOSAGE: Manifestations of acute overdose include restlessness, tremor, hyperreflexia, rapid respiration, confusion, assaultiveness, hallucinations, panic states. Fatigue and depression usually follow the central stimulation. Cardiovascular effects include arrhythmias, hypertension or hypotension and circulatory collapse. Gastrointestinal symptoms include nausea, vomiting, diarrhea, and abdominal cramps. Overdose of pharmacologically similar compounds has resulted in fatal poisoning, usually terminating in convulsions and coma. Management of acute Tenuate intoxication is largely symptomatic and includes lavage and sedation with a barbiturate. Experience with hemodialysis or peritoneal dialysis is inadequate to permit recommendation in this regard. Intravenous phenoltamine (Regitine®) has been suggested on pharmacologic grounds for possible acute, severe hypertension, if this complicates Tenuate overdose.

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References: 1. Citations available on request from Merrell Dow Pharmaceuticals Inc., Cincinnati, Ohio 45215. 2. Hoekenga, M. T. et al: A comprehensive review of diethylpropion hydrochloride. In *Central Mechanisms of Anorectic Drugs*, S. Garattini and R. Samanin, Ed., New York. Raven Press, 1978, pp. 391-404.



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WARNING: Because of the potential hazard of nephrotoxicity and ototoxicity due to neomycin, care should be exercised when using this product in treating extensive burns, trophic ulceration and other extensive conditions where absorption of neomycin is possible. In burns where more than 20 percent of the body surface is affected, especially if the patient has impaired renal function or is receiving other aminoglycoside antibiotics concurrently, not more than one application a day is recommended.

When using neomycin-containing products to control secondary infection in the chronic dermatoses, it should be borne in mind that the skin is more liable to become sensitized to many substances, including neomycin. The manifestation of sensitization to neomycin is usually a low grade reddening with swelling, dry scaling and itching; it may be manifest simply as a failure to heal. During long-term use of neomycin-containing products, periodic examination for such signs is advisable and the patient should be told to discontinue the product if they are observed. These symptoms regress quickly on withdrawing the medication. Neomycin-containing applications should be avoided for that patient thereafter.

PRECAUTIONS: As with other antibacterial preparations, prolonged use may result in overgrowth of non-susceptible organisms, including fungi. Appropriate measures should be taken if this occurs.

ADVERSE REACTIONS: Neomycin is a not uncommon cutaneous sensitizer. Articles in the current literature indicate an increase in the prevalence of persons allergic to neomycin. Ototoxicity and nephrotoxicity have been reported (see Warning section).

Complete literature available on request from Professional Services Dept. PML.



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Rauwolfia Serpentina Revisited

W. R. Walker, M.D., and J. L. Mathis, M.D.

ABSTRACT Rauwolfia serpentine and its alkaloids are used in the treatment of mild to moderate hypertension. This medication will produce severe depression in approximately 6% of those receiving it. A careful history of depression in the patient and his family is essential.

WILKINS and Judson described their experiences in the use of Rauwolfia serpentine as an antihypertensive agent in 1953.¹ Rapid acceptance of reserpine, an alkaloid of Rauwolfia, as an antihypertensive agent, alone and in combination followed, as did its use in psychiatric conditions.² However, in 1954 Freis reported five cases of severe depression in patients receiving reserpine for hypertension³ and concluded, not altogether correctly, that the distressing side effect occurred only in patients receiving large doses for prolonged periods.

Many reports emphasizing the depressive potential of Rauwolfia serpentine and its alkaloids appeared in the decade 1955-1965, suggesting an incidence of depression of about 20%. As might be expected, the more severe depressive reactions were less common than milder depressive syndromes. Studies reporting no depression usually involved low doses given too few patients for too short periods of time to be acceptable.

Goodwin and Bunney⁴ in 1971 found that approximately 6% of the patients on reserpine could be expected to develop a depression anal-

ogous to that termed "endogenous depression," and concluded that "reserpine, alone or in combination with other factors (such as stress), appears to be capable of precipitating depression in some susceptible individuals rather than being able to induce or produce depression *de novo*."

Thus, reserpine-containing products (Table I) should be used with great caution, if at all, in individuals with a history of or a predisposition to depression. Reserpine's potential for interfering with the intraneuronal binding of norepinephrine and other monoamines in the central nervous system seems to be critical. Norepinephrine, and, possibly, serotonin, freed by this mechanism might lead to deactivation and reduction in quantity of mitochondrial monoamine oxidase. Theoretically this hypothesis is consistent with our present body of knowledge.

Rauwolfia products are used infrequently today, but some clinicians have forgotten they do cause difficulties. A reaction of this severity which occurs in roughly one

of every 16 patients is significant and worthy of reemphasis. Other undesirable side effects — fluid retention, tremor, bradycardia, nasal congestion, gastric hyperactivity — also occur.

Two recent cases illustrate the depressive reactions induced by an alkaloid of Rauwolfia serpentina.

Case 1

A 56-year-old farmer was referred by his family physician because of inability to concentrate, early morning awakening, loss of appetite, extreme lethargy and fatigue, loss of interest in all activities, including sex, and profound sense of helplessness and hopelessness. The symptoms had increased slowly in severity for about five weeks. The patient had been placed on deserpidine (Harmony[®]) approximately two months before the onset of his symptoms for his moderate hypertension, but depressive symptoms had disabled him. At age 46 he had been hospitalized for about two weeks for severe depression from which he had recovered completely with psychotherapy and antidepressant medication. His mother had been hospitalized at age 50 for a "nervous breakdown" — probably a depressive episode. Since he had responded to a tricyclic antidepressant earlier, he was given the same drug as an outpatient, deserpidine was discontinued, and recovery was complete within a few weeks.

Case 2

A 66-year-old retired businesswoman, previously very energetic, constantly involved at home and in the community, had lost interest in

Table I
Prescription Drugs Containing
Reserpine or Deserpidine

| | |
|----------------------|--------------------------|
| Demi-Regroton | Oreticyl |
| Diupres* | Rau-Sed |
| Diutensin-R | Renese-R* |
| Dralserp | Ruhexatal with Reserpine |
| Exna-R* | Rygroton |
| Harmony [®] | Salutensin* |
| Hydromox | Sandril |
| Hydropres* | Ser-Ap-Es* |
| Hydrotensin | Serpasil |
| Metatensin | SK-Reserpine |
| Naquival | |

*In combination with a diuretic for use as an antihypertensive agent.

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all her activities, withdrawing gradually for about two months until she spent most of each day lying on her couch. She was unable to sleep without heavy sedation, had little appetite, was gradually losing weight and spoke of the futility of living. Each day was a burden and nothing gave her pleasure or hope. She had been placed on deserpidine as an antihypertensive agent about six weeks earlier for moderately elevated blood pressure which apparently had returned to normal before she lost interest in living. The physician who prescribed the medication had been her primary physician for 20 years and knew that she had been hospitalized and given ECT for a severe depression when she was 58. He also knew that she had been hospitalized at age 62 for depression after her husband's heart attack. Her only brother had committed suicide a few years before the current episode.

She and her husband desired to stop deserpidine without other treatment, but she failed to improve over the next three weeks. Since

she had responded well to ECT previously, she was hospitalized and so treated again. She made a complete recovery after 12 treatments, but severe depression recurred within one month after she left the hospital. She then received another course of ECT and made an uneventful recovery.

DISCUSSION

Few of us are immune to forgetfulness, and much of our knowledge needs periodic reinforcement. The busy physician particularly is prone to forget the side effects of medications which are not used frequently in daily practice and may not realize that a prescribed drug may contain reserpine or a related compound. We have seen several cases similar to those described above, so we think that the primary physician should be reminded that it is absolutely essential to take a history of prior depressions before giving a patient a Rauwolfia derivative. The drug is absolutely contraindicated when there is a past history of defi-

nite depression, and it should be used cautiously, if at all, for those with a history of depression in first degree relatives. Both our cases had positive family histories and previous episodes of disabling depression.

Even without a history of depression in the patient or the first degree relatives, it is wise to check each patient on a reserpine-containing medication periodically for signs and symptoms of depression. Specific antidepressant treatment may not be necessary if the offending drug is stopped before the depressive symptoms are well developed. This usually takes several weeks. Once developed, the depression tends to be profound and may not remit without energetic treatment.

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Heberden's Nodes

What are those little hard knobs, about the size of a small pea, which are frequently seen upon the fingers, particularly a little below the top, near the joint? They have no connexion with the gout, being found in persons who never had it; they continue for life; and being hardly ever attended with pain, or disposed to become sores, are rather unsightly than inconvenient, though they must be some little hindrance to the free use of the fingers. — William Heberden, 1818.

Intensive Plasma Exchange in Thrombotic Thrombocytopenic Purpura (TTP)

M. Robert Cooper, M.D., and John J. Stuart, M.D.

ABSTRACT Thrombotic thrombocytopenic purpura (TTP) is a disease of unknown etiology with a high mortality rate. Plasma exchange is a new technique of therapy associated with an improved patient response. Our experience with three patients treated with plasma exchange and antiplatelet agents is reported. One patient with limited plasma exchange achieved a partial remission and two patients obtained complete remission with more intensive therapy. Frequent and repetitive plasma exchange is an effective therapy for TTP.

THROMBOTIC thrombocytopenic purpura (TTP) is a disease of unknown etiology which has been attributed either to a platelet aggregating factor in the plasma¹ or to a deficiency of prostacyclin,² a material in normal plasma known to inhibit platelet aggregation. It is characterized by fluctuating neurological symptoms and signs, microangiopathic hemolytic anemia, thrombocytopenia, renal disease and fever and is associated with a wide spectrum of laboratory and clinical manifestations which vary in intensity but which invariably follow a fulminating clinical course. Within three months of diagnosis, 80% of untreated patients die.³

Although numerous therapeutic approaches, including splenec-

tomy, corticosteroids, dextran⁴, antiplatelet agents⁵ and plasma transfusions⁶, have been tried, remissions have only rarely been achieved. Cuttner⁷ has combined splenectomy with corticosteroids, average molecular weight dextran and antiplatelet agents with favorable results, while seven of eight patients recently treated by exchange plasmapheresis and administration of antiplatelet agents achieved complete remission⁸, a reverse of the previously noted mortality rate.

Plasma exchange specifically refers to the removal of plasma with the return of plasma or a plasma equivalent to the same patient. New equipment allows the removal of large amounts of the patient's plasma in a relatively short time.

We report our experience with three patients who have presented to our Pheresis Unit during the last 12 months with typical thrombotic thrombocytopenic purpura and who have been treated by plasma exchange.

METHOD

Each plasma exchange was accomplished using an IBM #2997 Blood Cell Separator. We remove 2000 cc of the patient's plasma and give 1000 cc of normal saline, 1000 cc of fresh frozen plasma and 50 g of albumin as replacement. Approximately two hours is required for each plasma exchange.

Clinical and laboratory findings in our three patients and their responses to therapy are presented in Table I. Patient #1, a 26-year-old

black female, presented with the classical findings of thrombotic thrombocytopenic purpura with severe chest and epigastric pain as major clinical manifestations. After she received plasma transfusions with no benefit a plasma exchange on the fifth hospital day led to immediate improvement, with prompt relief of pain. Plasma exchanges were repeated on days 9 and 17 with transient clinical improvement. Additional therapy and immunosuppressive agents, steroids, antiplatelet agents and splenectomy resulted in continued improvement.

Patient #2, a 27-year-old black female, presented with disorientation rapidly progressing to coma. Plasma was exchanged daily for three days followed by an exchange every other day for four additional exchanges — a total of seven exchanges. Clinical improvement was first observed on the fifth hospital day after the fourth plasma exchange. A complete remission was achieved.

Patient #3, a 35-year-old white female, progressed to profound coma with seizures and decerebrate posturing. Clinical deterioration continued during the first three plasma exchanges and therapy was maintained with daily plasma exchanges. Improvement was not observed until after the fifth exchange. Due to her precarious clinical condition, 13 exchanges were done over 18 days. A complete remission was achieved. Renal failure with a serum creatinine of 9.3 mg/dl was a major complication requiring re-

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Table I
Three Patients With Thrombotic Thrombocytopenic Purpura

| Patient | Age/Sex | Preexchange | | | | | Neurologic Findings | No. of Plasma Exchanges | Duration of Therapy | Response | Concomitant And/Or Subsequent Therapy |
|---------|---------|-------------|--------|------|---------|--------|--|-------------------------|---------------------|-----------------------------|--|
| | | HGB* | PLT** | LDH | MAHA*** | CR**** | | | | | |
| 1 | 26/F | 7.3 | 20,000 | 2250 | + | 1.7 | Lethargy | 3 | 31 Days | PR† 3 mo CR‡ 17 mo | Corticosteroids, Antiplatelet Agents, Immunosuppressive Therapy, Splenectomy |
| 2 | 27/F | 9.9 | 7,000 | 3894 | + | 3.0 | Coma | 7 | 9 Days | CR 6+ mo | Antiplatelet Agents |
| 3 | 35/F | 8.5 | 40,000 | 1780 | + | 9.3 | Coma With Decerebrate Posture And Seizures | 13 | 18 Days | CR 3 mo | Antiplatelet Agents |

*Hemoglobin (g/dl)

**Platelets/ul

***Microangiopathic Hemolytic Anemia

****Creatinine (mg/dl)

†Partial Remission

‡Complete Remission

petitive peritoneal dialysis. Both plasma exchange and peritoneal dialysis were used concomitantly without complications.

DISCUSSION

Our limited experience with these three patients suggests that plasma exchange may be a very effective treatment even if the clinical course of TTP is fulminating. The limited response of Patient #1 to an occasional plasma exchange suggests that intensive daily treatment may be indicated during the initial phase of the illness and should be continued until there is clinical improvement. Following clinical stabilization or improvement, plasma exchange should continue every other day until the platelet count and serum lactic dehydrogenase

concentration (LDH) have returned to normal and clinical signs and symptoms have resolved.⁹ Myers' seven patients whose TTP went into complete remission⁸ averaged eight plasma exchanges each with a maximum being 10 over a 30-day period. Our experience with Patient #3 indicates that the critically ill may require more intensive and prolonged plasma exchange.

Although plasma exchange appears to be effective for the management of a disease associated with a high fatality rate, the role of adjunctive antiplatelet therapy is unclear. Each of our patients received aspirin and dipyridamole initially and has continued to take these drugs. We recommend the use of both plasma exchange and antiplatelet agents for thrombotic throm-

bocytopenic purpura. A controlled clinical trial of plasma exchange with and without antiplatelet agents will be necessary to assess the value of these drugs.

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Office Psychotherapy: Methods and Indications for Referral

John Ingram Walker, M.D.

ABSTRACT Well designed studies have demonstrated that psychotherapy decreases psychiatric hospitalizations and reduces the cost of medical care for patients with emotional disorders. Acutely psychotic or suicidal patients as well as those who fail to respond to supportive psychotherapy can benefit from referral. Patients who display extreme dependency, passive-aggressive tendencies or hostility to authority figures do well in group therapy. Those with unconscious sexual or aggressive conflicts benefit from psychoanalysis. Patients with habit disturbance respond to behavior modifications.

MORE than 70 well-designed studies have demonstrated the effectiveness of a wide variety of individual and group therapies when compared to control groups.¹ A study² covering just over 1,000 patients found that 81% of those treated with intensive psychotherapy had no recurrence of their illness during the five year period following treatment: these patients showed symptomatic relief, subjective improvement, and favorable personality changes. Moreover,

medical as well as psychiatric hospitalizations were drastically reduced among the patients who had received intensive outpatient therapy with a pre-treatment rate of 5.3 days per year to a post-treatment rate of 0.78 days per year. In a study by Jameson, Shuman and Young,³ Blue Cross records of 136 patients who used outpatient psychiatric benefits over a 48-month period were analyzed. Results indicated that the average cost of medical and surgical care dropped from \$16.47 per patient per month before outpatient psychotherapy to \$7.06 after treatment. It is beneficial, then, for the primary physician to be familiar with psychotherapy techniques and be well informed about the various modalities of psychotherapy to make an appropriate psychiatric referral. A previous article⁴ discussed some of the basic techniques of supportive psychotherapy; this article reviews the major schools of psychotherapy to help the generalist decide which patient is likely to respond best to which type of therapy.

Those patients who fail to respond to supportive psychotherapy as well as acutely psychotic and suicidal patients should receive psychiatric referral. Patients with severe personality disorders may benefit from group therapy: those with unconscious sexual or aggressive conflicts can be helped with psychoanalysis; phobic patients and patients with obsessive-compulsive rituals do well with behavior modifications. Patients with habit distur-

bances may benefit from hypnotherapy.

GROUP PSYCHOTHERAPY

Group psychotherapy offers a model of self-disclosure, contact and intimacy while allowing an individual to learn that others have the same fears, angers and wishes that he does. In general, patients with personality problems do better in group therapy than in individual psychotherapy. More specifically, patients who display extreme dependency, passive-aggressive tendencies, hostile reactions to authority figures or distorted positive feelings toward the physician do better in group therapy because the group is able to diffuse the intensity of the patient's demands while confronting the patient's behavior. The patient's distorted views of others is more easily displayed and more clearly challenged in a group. Patients who have difficulty with interpersonal relationships and who tend to act out feelings are excellent candidates for group psychotherapy.

A patient who is referred for group therapy must have some degree of impulse control, be motivated to change and have enough reality testing to make general sense of the group activity. Patients with organic brain syndrome, paranoid ideation, antisocial characteristics, extreme somatization, acute mania, suicidal depression and active psychosis are not good candidates for group therapy.

Although no iron-clad rules pre-

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vail, most groups meet once a week for 1½ to 2 hours. The optimal number of group members is generally seven or eight. Therapy groups appear to do better when they are heterogeneous and balanced so that there are an equal number of both sexes and the patients should be in the same age range. Used appropriately, group therapy is an effective therapeutic modality.

Varieties of group therapy abound — encounter groups, sensitivity training groups, supportive groups, analytically oriented groups, transactional groups, and behavioral groups, to name a few. Hawkins and White⁵ have pointed out that regardless of what groups are named they can be divided into three basic models: (1) therapy-by-means of the group, (2) therapy-in-the-group, and (3) therapy-with-the-group.

Therapy-by-means-of-the-group. This type focuses the attention on the group as a whole rather than on individuals. Characterized by minimal structure with little recognition of individual needs, this model provokes a great deal of uncertainty in the members and requires patients with egos capable of tolerating anxiety.

Therapy-in-the-group. In this type the leader interacts with one patient at a time, ignoring group process and group interactions. Transactional analysis, gestalt and behavioral therapy are included in this type of group.

Therapy-with-the-group. Also known as interactional group therapy, this model focuses both on individual concerns and group issues. Interactional group therapy offers the individual a chance to examine his interactions with the help of the other members and the group leader. The individual is able to learn and practice techniques for successfully relating to others while exploring intrapsychic issues.

PSYCHOANALYTIC THERAPY

Psychoanalytically oriented psychotherapy, dynamic psychotherapy, insight psychotherapy and uncovering psychotherapy are all based on psychoanalytic theory first

proposed by Freud, who learned that patients could overcome inner obstacles to remembering if they were allowed to discuss whatever came to mind without regard to logic or decency. He named this technique free association. Helping the patient gain insight and adjustment by analyzing and interpreting what the patient said and did became known as psychoanalysis. Psychoanalytic therapy seeks to remove symptoms, alter maladaptive personality traits and improve the patient's relationships with others by helping the patient unravel unconscious conflicts.⁶

Psychoanalysis is lengthy (four 45-minute sessions weekly for three to five years or longer) and costly (\$50-\$60 or more a session). Nevertheless it is of great benefit to psychologically-minded patients who have the capacity to form warm relationships with other people but are plagued with neurotic conflicts.

BEHAVIOR THERAPIES

Behavior modification (commonly employed in obesity and anti-smoking clinics) uses learning theory to eliminate symptoms and change behavior.⁷ The primary physician uses many types of behavior therapy, often unwittingly, in daily office practice.

Extinction. Nonreinforcement of behavior is often more effective in eliminating behavior than is punishment or criticism. Bad behavior gradually goes away when it is ignored. It may be helpful, for example, to ignore a child's temper tantrums.

Shaping. New behavior can gradually be learned by reinforcing with praise, tokens or prizes each small step required to master new patterns. For example, patients can develop the habit of taking their medications by the physician's favorable comments when they do so.

Systematic desensitization. After being taught a deep form of muscular relaxation, the patient, gradually exposed to a hierarchy of imaginary scenes starting with those producing mild anxiety and progressing to those associated with severe anxiety,

becomes reconditioned to specific anxiety-producing situation. This procedure can be used to treat phobias, but more practically the physician can help desensitize the patient to such things as traumatic office procedure, hospitalization and surgery.

Hypnotherapy. Hypnosis, inducing an altered state and consciousness, can be used to modify habit disturbances such as overeating, smoking and poor study techniques. It is also effective in reducing chronic pain and alleviating anxiety. Although useful and easy to learn (several good continuing education courses are available for the physician who is interested), hypnosis is time consuming. It is closely related to, but differs from, biofeedback and progressive muscular relaxation.

Biofeedback. Biofeedback, a method to provide a patient with knowledge of internal body processes by using electronic instrumentation, has been used in the treatment of low back pain, hypertension, cardiac arrhythmias, tension and migraine headaches, and various other medical conditions.⁸ Feedback devices convert information such as heart rate, muscle tone and brain waves into light or sound signals which can be monitored by the patient. With practice, individuals may be able to change automatic functions of the body by altering feedback signals. Biofeedback can help relieve pain by aiding the patient's voluntary control over muscle spasm or blood flow.

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Toxic Encounters of the Dangerous Kind

PCP

Phencyclidine, "animal tranquilizer," "superweed," is probably best known by the name "angel dust." It really should be renamed "devil dust," for it is currently *the* drug menace in the United States and may be potentially the worst "street" drug to date. It is very versatile and can be smoked, snorted, taken orally or "main-lined." It can be easily synthesized by amateur chemists.

If you have not seen a case of PCP overdose you probably will, for this substance has already worked its way in the Southeast. Many of your patients who are "into drugs" are getting PCP whether they want it or not. Although many ask for it as their "high" of choice, others get it when they ask for something else. It is one of the most commonly misrepresented drugs — most commonly as THC, the active ingredient of marijuana, but also as LSD, cocaine, mescaline and amphetamines. Recent studies show that when a variety of street drugs are analyzed, up to 50% of them are found to be PCP.

You can recognize a PCP intoxication (especially in teenagers) in an emergency room by an awful quartet of features: (1) convulsions (2) combativeness (3) catatonia and (4) coma; patients often present as acute paranoid schizophrenics. They have enormous strength and unbelievable paranoid reactions. They literally feel no pain — PCP is classified as a dissociative anesthetic. Approach them with great caution; they commonly commit suicide or homicide when in the paranoid state.

In low doses the drug (which is most commonly smoked) produces a state similar to alcoholic inebriation with euphoria and a feeling of numbness. On examination there is a blank stare, incoordination, loss of response to pinprick and hyperacusis. A *moderate overdose* causes coma with the eyes open (a big diagnostic clue), vertical and horizontal nystagmus, hypertension and hyperre-

flexia. *High dose* PCP produces coma, hypertension, seizures, shivering, opisthotonus and decerebrate posturing. The diagnosis generally is made clinically. Thin layer of gas chromatography can confirm the diagnosis.

Management of a PCP overdose can be tricky and frustrating. Low dose patients usually only require a low sensory input environment including ear plugs. Do not attempt to "talk these patients down." Do not use restraints as rhabdomyolysis and renal failure can ensue. Acidification increases urinary excretion of PCP as it shifts PCP from the tissues (e.g., CNS) into the extracellular fluid and then urine. This can be accomplished by cranberry juice and ascorbic acid in the not so severe cases and by ammonium chloride in the more severely involved. The seizures should be treated with diazepam or paraldehyde (do not use barbiturates as they can produce CNS depression and hypotension in this poisoning). The hypertension can be severe and diazoxide (Hyperstat) is the drug of choice. For acute agitation it is safer to use haloperidol; phenothiazines in the acute stages can aggravate the CNS symptoms.

Think of "devil dust poisoning" especially in teenagers or young adults who present as acute schizophrenics with extreme paranoia and exhibit weirdly distorted sensory perceptions, nystagmus, marked hypersensitivity to noise and light, and hypertension. (It has recently been reported that just being in a room where this drug is being smoked can poison a preschool child.)

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NORTH CAROLINA MEDICAL CURIOSITIES

MODERN BEARDED LADY

A bearded lady who is well remembered by frequenters of circuses and dime museums was Lady Olga. Few side-show personalities appeared before the public for as long a period as Lady Olga did. She made her first appearance when she was four years old. Sixty-five years later she was still going, having appeared with the Ringling Brothers, Barnum & Bailey, Hagenback-Wallace, Forepaugh-Sells, Royal American shows and many others. In 1932 she acted in Tod Browning's film, "Freaks," where she naturally played the role of the bearded lady.

Lady Olga was born Jane Barnell in Wilmington, N.C., in 1871. Her father George, a Jew from Russia, was a repairer of wagons by trade. Her mother was part Irish and part Indian. From the moment she was born, Jane, with her down-covered face, was recognized as an oddity. The down showed no signs of disappearing and by the time she reached her second birthday she possessed markings of a beard. Her mother, who was not an educated woman, was sure someone had put a curse on the child. Jane's father was less troubled by her appearance and treated her with greater affection than her mother did. Jane was four when her mother, while her father was out of town on business, took her to the circus and came home without her. The Great Orient Family Circus had pulled into Wilmington and she was traded to them. The family who ran the circus had dark skin and Jane thought that they were foreigners. Everyone took part in the show; the son did tricks on the tight-rope, the daughters entertained with dances and the mother was a snake charmer. Since they did not have a bearded lady or a bearded girl, the family took Jane under their wing and treated her with affection.

When Jane's father got home from his business trip, she had been gone for weeks. Frantic, he appealed to the police for help in finding his missing daughter. North Carolina and the surrounding states were searched but Jane and the Great Orient Family Circus had vanished.

In a large southern city, the circus family sold its wagon and then embarked for Europe. Jane, the starlet of the ensemble, accompanied them. The circus was playing in Berlin when Jane, who was five, came down with a serious illness. The Great Orient Family, despairing for her life, took her to a hospital. By the time she recovered they had left the city and she ended up in an orphanage. However, the little bearded girl was eventually found by her father and for the lonesome child there was an unforgettable reunion. Bar-

nell took her back to the United States and she went to live not with her unloving mother but with her grandmother on a farm in North Carolina. There she fed the chickens and did all the other chores required of a farm girl.

When she reached the age at which boys begin to shave, she did too. But her beard required much more frequent shaving than theirs. A neighbor of Jane's grandmother, a farmer named William Heckler, was a professional strong man in a circus part of the year. He informed Jane that the beard was nothing to be ashamed of and instead of shaving it off she should allow it to grow and cash in on it. Life on the farm had become less exciting for Jane, and Heckler's arguments carried conviction. She allowed him to introduce her to his friends in the John Robinson Circus and in 1892, when she was 21, she went to work for them.

The circus opened a whole new world for Jane. Color, noise and excitement surrounded her. She began to keep company with a musician who played in the band and discovered that with the right man a beard was no barrier to true love. The couple were married and had two children. Neither of the children lived long and her husband also passed away.

Circus life lost its glitter for her after the death of her husband. She became restless and drifted from one circus to another. She married another circus man but he lost his life in an accident. Jane's third marriage ended in divorce. A year later she fell in love with a circus clown, Thomas O'Boyle, some 21 years younger than she. They were married in 1931 and he later became a barker and took a job at a dime museum when Jane was appearing there.

In April, 1938, Ringling Brothers opened in New York. Olga, in her 60th year by then, was asked if she would join the Easter Parade on Fifth Avenue. She replied, stroking her beard: "I most certainly will not parade on Fifth Avenue — somebody might mistake me for a Supreme Court judge. But I might give my beard some extra curling for Easter." That was Olga's last year with the circus.

In her long career, Olga had changed her professional name several times. First she was Princess Olga, later Madam Olga, and finally — a more distinctive title — Lady Olga.

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Editorials

HELIOTROPISM

When an organism responds to a stimulus by reaching toward it, tropism occurs, phototropism when the source is any light and heliotropism when sunlight beckons. In the spring this phenomenon is demonstrated over and over again as flowers strain toward the sun, but in man it is less easy to recognize. Northern Europeans have through the centuries been said to seek the South, a yearning anyone who has spent a winter in Germany or Scandinavia can easily appreciate. Spring in medieval Western society was marked by pilgrimages to shrines, as if the search for light had been incorporated into religious practice. After all had not Mithraism, a masculine cult of sun worshipers, been a strong rival to Christianity in the Roman era, taking the seventh day as sacred and celebrating the birth of Mithras at the winter solstice in late December? Roman soldiers on the Persian frontier had learned of Mithras, son of the Zoroastrian god of light, Ahura Mazda, later memorialized in a light bulb and an automobile, and had spread the new faith to the Western ends of empire, Hadrian's Wall.

It would perhaps have come as little surprise to the followers of Mithras that the earth revolved about the sun, difficult as it was for the ancient papacy to accept the notions of Copernicus and Galileo. Other religions had retained for light a prominent role in their rituals and even Christianity had incorporated the rising sun at Easter as a symbol of resurrection. In fact notions about mystic light have permeated almost all ancient theologies, light being, as the antithesis to darkness, the state of holiness or transcendence.¹

Internal heliotropism then must have been the state sought by priests and worshipers in ancient and even recent times. Wellman² has suggested that Indian shamans under the influence of jimsonweed were responsible for polychromatic rock paintings in California and for similar works in the lower Pecos River region in Texas where mescal was the sacred hallucinogen of choice. Interestingly the Chumash Indian cave paintings in California contain striking images of the sun disc with radiation and sunburst effects.

Since hallucinations seem to be much alike from person to person and from culture to culture, it may be that the potential for perceiving the inner light is an established feature of the central nervous system. An accepted psychiatric definition for hallucination — "A false sensory perception in the absence of an actual external stimulus" — may not be satisfactory because the external stimulus may have been remote,

or at least not immediate, and transformed in the brain so as to be unidentifiable by the examiner. The trouble comes with defining false. Some assert the true facts as if false facts exist and have received equal time. One need only read of Joan of Arc to appreciate how complex is the nature of internal reality and how it may lead someone into conflict with custom, authority and the true facts.

This difficulty in defining the nature of internal reality may be one of the critical factors in our present day concern about street drugs used for recreation as if achieving the inner light were considered entertainment rather than a transcendent experience. When drug use was limited to the initiated — the shaman, the priest and perhaps the congregation and cult on certain sacred occasions — there was no problem because these practices were accepted as valuable and even redemptive by society. The sanction of tradition makes all the difference it seems. When the artist or the writer uses hallucinogens to enrich imagery the practice has often been acceptable too if the result — the painting, the poem, the story — appeals.

Plants used in sacred or magical ceremonies must contain psychoactive agents and are legitimate targets for pharmacologic investigation but an appreciation of their historic usage may be equally important if social controls are to be maintained. There is indeed a rich literature in ethnopharmacology recently reviewed extensively by Díaz³ who distinguishes six families of sacred plants by their effects: visionary, imagery-inducing, trance-inducing, deliriant, neurotoxic and excitatory. By characterizing the members of these families chemically and pharmacodynamically, our understanding of how the brain acts as mind, already broadened by the revelations of the endorphins, should be greatly enhanced.

Hallucinogenic effects are not limited to natural compounds; the laboratory has contributed several in recent years as hypertension has been attacked centrally as well as peripherally. Reserpine from the ancient Indian snakeroot recaptured from the ancient Vedanta pharmacopeia served to focus attention on cerebral involvement in hypertension and synthetic compounds have followed in abundance. Clonidine⁴ and propranolol have been identified as occasional hallucinogens and levodopa⁵ has recently been added to that circle.

Some note must also be taken of form and color which may be of almost equal importance in sacred imagery and in artistic vision. We need only to turn to

the most common pharmacologic disturber of vision, digitalis, to appreciate the spectrum of change in light, form and color inducible by a compound finding its appropriate receptor and activating it. Withering investigating "the cure of the dropsy . . . long . . . kept a secret by an old woman in Shropshire" observed that overdosage with the foxglove caused changes in color vision which disappeared when the drug was stopped. Volpe and Soave⁶ have recently described a patient seen because of "repetitive formed visual hallucinations — butterflies, birdhouses and Confederate soldiers" and two others with similar symptoms all attributable to digitalis and Lee⁷ has suggested that some of Van Gogh's remarkable artistic imagery may represent externalization of hallucinations in form and color caused by digitalis intoxication. The *Starry Night* perhaps representing such a phenomenon on canvas. Digoxin toxicity can even be quantified using the Farnsworth-Munsell 100-Hue test, color vision scores correlating well with plasma digoxin concentrations and the effects of cardiac glycosides on cation transport in the erythrocytes of victims.⁸

Thus all peoples seem to seek the light as if the quest were coded in our genes. For most of recorded history the inner light has seemed to represent absorption in the sun, the cosmos or the infinite depending on the belief of those who have seen that light. Even today heliotropism is with us as more secular pilgrimages to the beaches and to ultra-violet lights in bathrooms demonstrate. It is too early to know what changes in psyche or genes offices without windows will provoke. Fluorescent, incandescent and neon lights do not appear to be adequate substitutes for the sun. At least, they are pallid dieties hardly capable of competing with the sun as stimuli for physical or theological responses and in the long run they won't be as cost effective either.

J.H.F.

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"WHAT IS THE MONETARY VALUE OF HUMAN LIFE?"

One of the conflicts about medicine in modern society lies in differing views of the roles of physicians. To many, particularly to the doctor himself, that role is primarily one of identifying the cause of the complaint and devising treatment. Whether the sickness is organic or psychosomatic is irrelevant in this context because most patients accept reassurance or cure with equal enthusiasm when they feel better long enough. For others the doctor is expected to be a

maintenance man — to assure physical, spiritual, cultural and even economic health. But preparation for the latter role can't be come by in modern medical schools which are busy enough with patient care and demanding enough of medical students as it is.

This situation has evolved since the Hill-Burton Act of 1946 which started the hospital on the road to becoming the modern cathedral. Yet, whereas, the ancient cathedral existed primarily for the maintenance of spiritual health and played a less prominent nosocomial role, keepers of today's temple tend the sick body and concern themselves little with preventive mental maintenance. To remedy this deficiency, which is viewed by some as something definable and susceptible to regulation, Congress in 1974 passed the National Health Planning and Resource Development Act. Such a move was, as Diseker¹ has pointed out, toward regulation and away from incentive. Regulation, however, is costly and proposes to exclude and to limit while incentive demands that risks be taken and that the investigator must sometimes follow his hunches rather than his protocol. Since each new patient is in a sense a new experiment, it is easy to see why practicing physicians are frequently unhappy with regulation and respond to incentive.

These movements suggest that we are fumbling our way to a new medical system to meet needs presently unsatisfied just as earlier western society found nosocomia insufficient and evolved better methods. One of the problems which was perhaps unanticipated in 1974 by the authors of Public Law 93-641 is inflation contributed to in large measure by unproductive government spending. Such inflation necessitates that even more careful attention be focused on current costs and results than in the past. But to measure value received, we have to have some idea of what we need as well as what we want and what we can have. To know what we can have, we have to know what resources are available. Therefore, Congress in its infinite wisdom has decreed that we have Health Systems Agencies (HSA) which will offer Annual Implementation Plans (AIP) which will be acted upon. Action of course depends on resources so that the AIP becomes a sort of architect's sketch of an HSA's vision. Whether the vision can be realized depends on money and whether it should be is another matter entirely.

In all this turmoil goals are set, suggestions made and definitions offered. Yet one essential question is avoided perhaps because it sounds callous and because it demands a reexamination of our goals and a dispassionate assessment of our resources. The question would have been of little significance in medieval times because resources were primarily agricultural and spiritual. In our industrial and commercial civilization, it is necessary that the question "What is the monetary value of human life?" be asked because it is the heart of our ratiocinations. Card and Mooney² have dared to ask this question about the National Health Service in Britain and have pointed out that resources for health service can never be unlimited. Therefore, aspirations based on non-monetary values

will always come in conflict with those based on acquisitiveness and monetary measures. Resolution of this conflict can never be final because the results of research cannot be predicted. Thus we need mechanisms built into all protocols and even into AIPs to allow dynamic diversions if we are to improve the quality and quantity of health care.

As a result of these maneuvers toward a more flexible and effective system, some feel that regulation is stifling incentive and increasing cost. Some of our difficulties arise because we can no longer base our projections on costs determined by the natural history

of disease. Given our inflationary fiscal background, our adventures in cancer chemotherapy, our program in end-stage renal disease, our efforts to cope with the mixed blessings of *Nicotiana tabacum* and our uncertainty about what to do about the consequences of industrial and non-industrial chemical exposure, emphasize that the physician must sometimes be more than a therapist for specific problems.

J.H.F.

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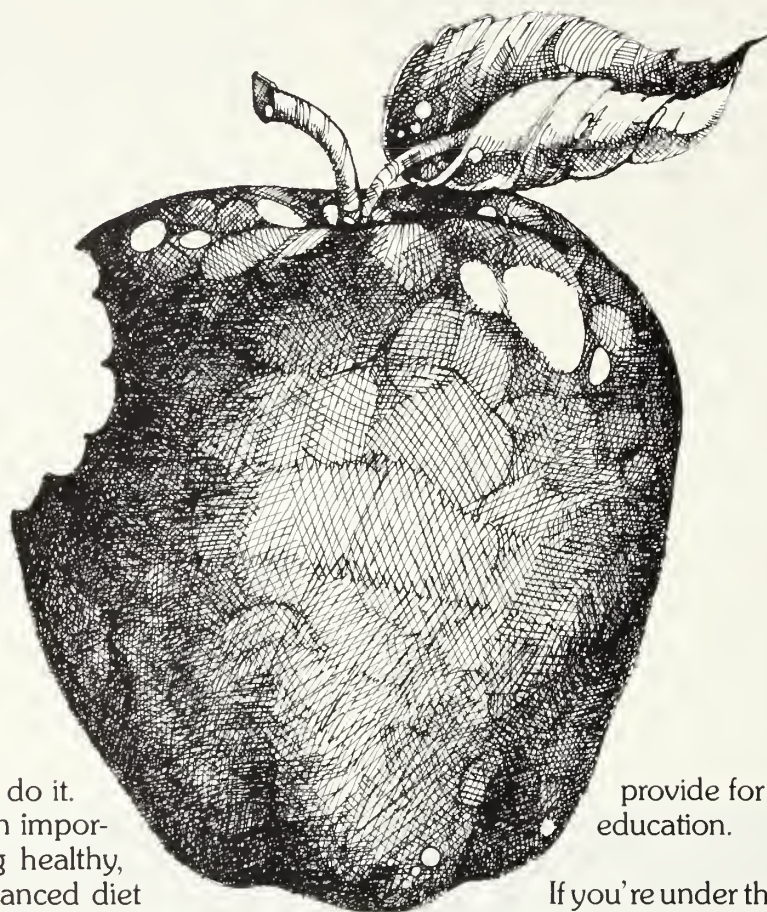
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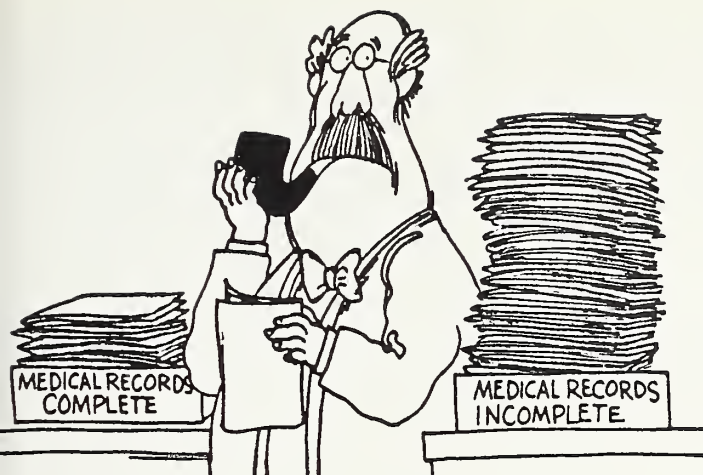
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Effective Records Management

By: Greg Korneluk
Program Director, AMA
Department of Practice Management

Would you put a leech on a patient to cure the flu? Of course not! Such a procedure may have been considered good practice in the 19th century but it is totally inappropriate today. Similarly, while the four-drawer filing cabinet modernized the 19th century physician's office, it's so outdated today that it can seriously impede office efficiency. You'll find your filing process more convenient and economical if you rid your office of the antiquated four-drawer system and replace it with the new open-shelf, color-coded, lateral filing method.

Why Convert?

- In most offices staff salaries account for 15 percent of gross practice revenues. In other words, staff time is expensive. With a four-drawer filing cabinet, a great deal of this expensive staff time is being spent opening and closing drawers in the filing and retrieval process. With lateral filing systems the medical assistant does not need to open and close the drawer every time a file is pulled or refiled, because the open view and color guides her to the correct spot as she approaches the file.

- It has been estimated that it costs approximately 17 cents to file a chart and \$65 to find a misfiled chart. Medical practices that utilize the color coding mechanism have proven that misfiles are drastically reduced with color coding.

- Files which are not color coded take considerably longer to file and retrieve.

- Rental space accounts for five percent of gross practice revenues in most areas. Four-drawer filing cabinets take up 50 percent more space than open-shelf lateral files. This space can usually be utilized more effectively for other purposes.

How to Convert

- *Institute open-shelf filing.* Open-shelf lateral filing can be easily compared to a bookshelf. Files

are lined up on an open shelf to a height of approximately eight feet from the floor. The name or number appears on an end tab which is easy to scan, much the same way you might scan the title that appears on the spine of a book. Thus open shelves can accommodate two to three feet more files in height than a four-drawer cabinet, and the shelves are better space savers than drawers.

- *Use section dividers.* A section divider is a thick cardboard or plastic file divider with an end tab or top tab that marks the beginning of a section. If you are filing alphabetically, you probably will have three to five section dividers per letter in the alphabet. The section dividers serve to single out those areas in which the largest number of files are situated. For example, if you had 20 or 30 patients with the last name of Johnson, you might want to implement a special section divider for that last name. In this way, you are limiting the file search for "Johnson" by going straight to a section divider. Naturally, the section dividers should be customized to the alphabetic breakdown of patient names in your practice. Section dividers can be purchased for about 20 cents each.

- *Color code your records.* It's an inexpensive technique used to limit the file search and consequently saves staff time. In most systems eight basic colors are used. For example, first, you'd affix a half inch red band to the tab of all "A" files. Next, you'd select another color like orange to all the "B's" and so on until each of the eight colors are used and you begin again with red. Most offices will code the charts by the first two letters of the patients last name. Consider the name "Johnson" as an example. Assume that the color blue represents the letter "J" and the color yellow represents the letter "O". Therefore, "Johnson's" chart will have 2 colors—blue and yellow.

Color coding can also be effectively utilized in numerical systems to limit the file search and eliminate misfiles.

- *Use out-guides.* An out-guide is a larger colored file, usually thicker cardboard or plastic

which is colored yellow or blue for easy recognition. When a medical record is pulled off the shelf, an out-guide can be inserted in the file's place. When the medical assistant refiles the chart, she can zero in on the general area of the file and then look for the out-guide. This too, reduces refiling time.

- Consider out-guides with plastic pockets so that letters, reports, or miscellaneous paper can be filed in the out-guide on a daily basis. In this way, the general refiling of routine reports will not be disrupted if the file is not on the shelf.

Out-guides can also be purchased with a pre-printed log. On this log, write the date the file was pulled and who has it. This allows you more control over the file and a trail can be established to hunt down the file if it's needed for an emergency.

- Train your medical assistants to sort all of the files in alphabetical or numerical order before they begin refiling. Once the files are in proper order the medical assistant need only scan for the out-guide and replace the files in their right order starting from one and moving down the line.

- *Pull inactive charts.* Generally if a patient has not been in to see you within five years you should pull the chart from your active files and put it in a less accessible space or a low-cost storage area.

Your initial culling process should be done over

a weekend and all charts should be "weeded-out" to begin. To make the process easier in the future, a color coded dot can be affixed to each file when the patient visits your practice in any given year. For example: assume that a red color dot denotes 1979. When a patient visits your practice in 1979 put a red dot on his chart. If the same patient comes in again the red dot indicates that the patient has been in the office in 1979. In 1980, if the patient comes in again put a yellow dot on the patient chart. In this way, when the time comes to cull the chart, you will know which patient's haven't been in for the past five years by looking for the colored dot. Make sure all staff know the color-dot code by year.

File inactive charts alphabetically in a storage area. Since you won't be referring to the inactive charts on a regular basis, these can be filed somewhere which costs less than your office rent or in non-"prime" space.

Medical records management has progressed a long way from the four-drawer filing cabinet invented in 1893. Physicians no longer have to bear the many aggravations of an antiquated record keeping system. With the implementation of an open shelf, lateral, color coded filing system you will surely reap the rewards of efficiency in time and money for many years to come. Remember — anyone can file a record; the trick is to find it.

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| | |
|---|-------|
| Pentylentetrazol. | |
| Niacin | |
| Vitamin B-1 | |
| Vitamin B-2 | |
| Vitamin B-6 | |
| Vitamin B-12 | |
| Choline | |
| Inositol | ..... |
| Manganese (as Manganese Sulfate) | ..... |
| Magnesium (as Magnesium Sulfate) | ..... |
| Zinc (as Zinc Sulfate) | ..... |
| Iron (as Ferric Pyrophosphate, Soluble) | ..... |
| Alcohol | ..... |

See prescribing information on last page of this advertisement.



Potassium Supplementation Improved Compliance...

TWIN-K®

Each 15 ml supplies 20 mEq of potassium ions as a combination of potassium gluconate and potassium citrate in a sorbitol and saccharin solution.

A good tasting potassium supplement designed for prophylactic and therapeutic use with diuretics and adrenocorticoids. Pleasant taste and convenient dosage aid patient compliance.

The organic salt of potassium can be given as a liquid without producing significant gastric symptoms and without an untoward effect on the mucosa of the small intestine.¹

¹ Harrison-McDermott, Textbook of Medicine, 15th Ed. 1979, W.B. Saunders Co., Philadelphia, page 1959.

In Cases with Chloride Deficiency...

TWIN-K-Cl™

Each 15 ml supplies 15 mEq of potassium ions and 4 mEq of chloride ions as a combination of potassium gluconate, potassium citrate, and ammonium chloride in a sorbitol and saccharin solution.

The good tasting potassium supplement with chloride

- In hypokalemic hypochloremic alkalosis, chloride ions are required. Twin-K-Cl is specially formulated to be a good tasting chloride containing potassium supplement.
- Contains no potassium chloride. Twin-K-Cl is a carefully balanced combination of organic potassium salts plus ammonium chloride.
- In hypochloremic patients, potassium should be provided as the chloride salt, or chloride ion must be made available in some other form, such as ammonium chloride or sodium chloride.¹

See prescribing information on last page of this advertisement.



F-E-P CREME

DESCRIPTION

F-E-P Creme is a topical water soluble anti-inflammatory, anesthetic preparation intended for treatment of various inflammatory skin disorders. The drug contains the following active ingredients:

| | |
|--------------------------|------|
| Iodochlorhydroxyquin. | 3.0% |
| Pramoxine Hydrochloride. | 0.5% |
| Hydrocortisone | 1.0% |

INDICATIONS AND USAGE

Based on a review of this drug by the National Academy of Sciences-National Research Council and/or other information, FDA has classified the indications as follows: "Possibly" effective: Contact or atopic dermatitis, impetiginized eczema, nummular eczema, infantile eczema, endogenous chronic infectious dermatitis, stasis dermatitis, pyoderma, nuchal eczema and chronic eczematoid otitis externa, acne urtica; localized or disseminated neurodermatitis, lichen simplex chronicus, anogenital pruritus (vulvae, scroti, ani), folliculitis, bacterial dermatoses, mycotic dermatoses such as tinea (capitis, cruris corporis, pedis), moniliasis, intertrigo. Final classification of the less-than-effective indications requires further investigation.

Pramoxine Hydrochloride promptly relieves pain and itch. This compound may be used safely on the skin of those patients sensitive to the "caine" type local anesthetics.

CONTRAINDICATIONS

Hypersensitivity to F-E-P Creme, or any of its ingredients or related compounds; lesions of the eye; tuberculosis of the skin; most viral skin lesions (including herpes simplex, vaccinia and varicella).

WARNINGS

This product is not for ophthalmic use.

In the presence of systemic infections, appropriate antibiotics should be used.

USE IN PREGNANCY

Topical steroids have not been reported to have an adverse effect on pregnancy. However, fetal abnormalities have been produced in pregnant laboratory animals that have been exposed to large doses of topical corticosteroids. Drugs of this class should not be used extensively during pregnancy.

PRECAUTIONS

F-E-P Creme may be irritating to the skin in some patients. If irritation occurs discontinue therapy. Staining of clothes or hair may also occur with use of this preparation. Although systemic toxicity has not been reported with this drug, adrenal pituitary suppression is possible, especially when the drug is used extensively or kept under an occlusive dressing for a prolonged period. Iodochlorhydroxyquin can be absorbed through the skin and interfere with thyroid function tests. Therapy with this preparation should stop at least a month before performance of these tests. The ferric chloride test for phenylketonuria (PKU) can be positive if F-E-P Creme is on the diaper or in the urine.

Prolonged use of this drug may result in an overgrowth of non-susceptible organisms requiring appropriate therapy.

ADVERSE REACTIONS

Skin rash or hypersensitivity may occur following topical application.

The following local adverse reactions have been reported with topical corticosteroids, especially under occlusive dressings: burning, itching, irritation, dryness, folliculitis, hypertrichosis, acneiform eruptions, hypopigmentation, perioral dermatitis, allergic contact dermatitis, maceration of the skin, secondary infection, skin atrophy, striae, miliaria. Discontinue therapy if untoward reactions occur.

DOSE AND ADMINISTRATION

Apply a thin layer of the drug to affected parts 3-4 times daily.

Note:

- 1 F-E-P Creme is distributed with 3.0% Iodochlorhydroxyquin for use when antibacterial/antifungal activity is desired.
- 2 F-E-P Creme (Plain) is the regular formulation, but without Iodochlorhydroxyquin.

Both of these preparations contain pramoxine hydrochloride, which has topical anesthetic properties. Pramoxine is not chemically related to benzocaine acid or amide type topical anesthetics. Patients can tolerate pramoxine although they may be sensitive to other "caine" type of topical or local anesthetics.

HOW SUPPLIED

F-E-P Creme 1/2 ounce (15 gm) tubes NDC 0524-0026-51
F-E-P Creme Plain 1/2 ounce (15 gm) tubes NDC 0524-0025-51
Federal law prohibits dispensing without a prescription
July 1980

SU-TON®

DESCRIPTION

Forty-five milliliters of SU-TON contain the following ingredients:

| | |
|---|--------|
| Pentylenetetrazol. | 30 mg |
| Niacin. | 50 mg |
| Vitamin B-1 | 10 mg |
| Vitamin B-2 | 5 mg |
| Vitamin B-6 | 1 mg |
| Vitamin B-12 | 3 mcg |
| Choline. | 100 mg |
| Inositol | 50 mg |
| Manganese (as Manganese Sulfate) | 1 mg |
| Magnesium (as Magnesium Sulfate) | 2 mg |
| Zinc (as Zinc Sulfate) | 1 mg |
| Iron (as Ferric Pyrophosphate, Soluble) | 22 mg |
| Alcohol | 18% |

INDICATIONS AND USAGE

SU-TON contains pentylenetetrazol which may be helpful in the older patient as an anesthetic agent when mental confusion and memory defects are present. SU-TON also contains vitamins, trace minerals, and iron, for those patients who may benefit by preventing the development of a deficiency.

CONTRAINDICATIONS

Epilepsy, convulsive disorders or known history of sensitivity to any of the listed active ingredients.

WARNINGS

The safety of this preparation during pregnancy and lactation has not been established. Use of this drug requires that the physician evaluate the potential benefits of the drug against any possible hazard to the mother and child.

PRECAUTIONS

Although there are no absolute contraindications to pentylenetetrazol, it should be used with caution in epileptic patients or those known to have a low convulsive threshold or a focal brain lesion. Caution should be exercised when treating patients with high doses of SU-TON who have heart disease. While pentylenetetrazol does not act directly on the myocardium, the results from central vagal stimulation could cause bradycardia.

ADVERSE REACTIONS

Pentylenetetrazol in high doses may produce toxic symptoms typical of central nervous system stimulants, which act on the higher motor centers and the spinal cord. Convulsions resulting from this drug are spontaneous and are not induced by external stimuli. They usually last for several minutes and are followed by profound depression and respiratory paralysis. Death has been reported from the ingestion of 10 grams of pentylenetetrazol.

DRUG ABUSE

Drug dependence has not been reported with SU-TON.

OVERDOSAGE

Signs and symptoms of acute overdose may be due principally from overstimulation of the central nervous system and from excessive vasodilatation with resulting autonomic nervous system imbalance. The symptoms may include the following: vomiting, agitation, tremors, hyperreflexia, sweating, confusion, hallucinations, headache, hyperpnea, tachycardia. Treatment consists of appropriate supportive measures. If signs and symptoms are not too severe and the patient is conscious, gastric evacuation may be accomplished by induction of emesis or gastric lavage.

Intensive care must be provided to maintain adequate circulation and respiratory exchange.

DOSE AND ADMINISTRATION

One tablespoonful (15 ml) 3 times a day 20-30 minutes before meals. This drug is not for use in children under 12 years of age.

HOW SUPPLIED

Bottles of 473 ml (16 fl oz) NDC 0524-0015-16
Federal law prohibits dispensing without prescription
February 1980

TWIN-K

DESCRIPTION

Each 15 milliliter (one tablespoonful) supplies 20 mEq of potassium ions as a combination of potassium gluconate and potassium citrate in a sorbitol and saccharin solution.

INDICATIONS AND USAGE

For use as oral potassium therapy in the prevention or treatment of hypokalemia which may occur secondary to diuretic or corticosteroid administration. It may be used in the treatment of cardiac arrhythmias due to digitalis intoxication.

CONTRAINDICATIONS

Severe renal impairment with oliguria or azotemia, untreated Addison's disease, adynamia episodica hereditaria, acute dehydration, heat cramps and hyperkalemia from any cause. This product should not be used in patients receiving aldosterone antagonists or triamterene.

WARNINGS

TWIN-K (potassium gluconate and potassium citrate) is a palatable form of oral potassium replacement. It appears that little if any potassium gluconate-citrate penetrates as far as the jejunum or ileum where enteric coated potassium chloride lesions have been noted. Excessive, undiluted doses of TWIN-K may cause a saline laxative effect.

To minimize gastrointestinal irritation, it is recommended that TWIN-K be taken with meals or diluted with water or fruit juice. A tablespoonful (15 ml) in 8 ounces of water is approximately isotonic. More than a single tablespoonful should not be taken without prior dilution.

PRECAUTIONS

Potassium is a major intracellular cation which plays a significant role in body physiology. The serum level of potassium is normally 3.8-5.0 mEq/liter. While the serum or plasma level is a poor indicator of total body stores, a plasma or serum level below 3.5 mEq/liter is considered to be indicative of hypokalemia.

The most common cause of hypokalemia is excessive loss of potassium in the urine. However, hypokalemia can also occur with vomiting, gastric drainage and diarrhea.

Usually a potassium deficiency can be corrected by oral administration of potassium supplements. With normal kidney function, it is difficult to produce potassium intoxication by oral administration. However, potassium supplements must be administered with caution since, usually, the exact amount of the deficiency is not accurately known. Checks on the patient's clinical status and periodic EKG and/or serum potassium levels should be made. High serum potassium levels may cause death by cardiac depression, arrhythmias or arrest.

In patients with hypokalemia who also have alkalosis and a chloride deficiency (hypokalemic hypochloremic alkalosis), there will be a requirement for chloride ions. TWIN-K is not recommended for use in these patients.

ADVERSE REACTIONS

Symptoms of potassium intoxication include paresthesias of the extremities, flaccid paralysis, listlessness, mental confusion, weakness and heaviness of the legs, fall in blood pressure, cardiac arrhythmias and heart block. Hypokalemia may exhibit the following electrocardiographic abnormalities: disappearance of the P wave, widening and slurring of the QRS complex, changes of the ST segment and tall peaked T waves.

TWIN-K taken on an empty stomach in undiluted doses larger than 30 ml can produce gastric irritation with nausea, vomiting, diarrhea, and abdominal discomfort.

OVERDOSAGE

The administration of oral potassium supplements to persons with normal kidney function rarely causes serious hyperkalemia. However, if the renal excretory function is impaired, potentially fatal hyperkalemia can result. It is important to note that hyperkalemia is usually asymptomatic and may be manifested only by an increased serum potassium concentration with or without EKG changes. Treatment measures include:

- 1 Elimination of potassium containing drugs or foods.
- 2 Intravenous administration of 300 to 500 mEq of a 10% dextrose solution containing 10-20 units of crystalline insulin per 1000 milliliters.
- 3 Correction of acidosis.
- 4 Use of exchange resins or peritoneal dialysis.

In treating hyperkalemia, it should be noted that patients stay on digitals can develop digitalis toxicity when the serum potassium concentration is changed too rapidly.

DOSE AND ADMINISTRATION

The usual adult dosage is one tablespoonful (15 ml) in 6 ounces of water or fruit juice, two to four times a day. T supply 40 to 80 mEq of potassium ions. The usual preventive dose of potassium is 20 mEq per day while therapeutic range from 30 mEq to 100 mEq per day. Because of the potential for gastrointestinal irritation, undiluted large single doses (3 more) of TWIN-K are to be avoided.

Deviations from this schedule may be indicated, since no total daily dose can be defined, but must be governed by observation for clinical effects.

HOW SUPPLIED

Bottles of 1 pint (16 fl oz)

NDC 0524-0

CAUTION

Federal law prohibits dispensing without prescription.
July 1980

TWIN-K-CI™

DESCRIPTION

Each 15 ml (one tablespoonful) supplies 15 mEq of potassium ions and 4 mEq of chloride ions as a combination of potassium gluconate, potassium citrate, and ammonium chloride, in a sorbitol and saccharin solution.

INDICATIONS

For use as oral potassium therapy in the prevention or treatment of hypokalemia which may occur secondary to diuretic or corticosteroid administration. It may be used in the treatment of cardiac arrhythmias due to digitalis intoxication.

Potassium and chloride are usually the salts of choice in the treatment of hypokalemia since chloride and potassium deficiency are likely to be associated with each other.

CONTRAINDICATIONS

Severe renal impairment with oliguria or azotemia, untreated Addison's disease, adynamia episodica hereditaria, acute dehydration, heat cramps and hyperkalemia from any cause. This product should not be used in patients receiving aldosterone antagonists or triamterene.

WARNINGS

TWIN-K-CI is a palatable form of oral potassium replacement. Excessive, undiluted doses of TWIN-K-CI may cause a saline laxative effect.

To minimize gastrointestinal irritation, it is recommended that TWIN-K-CI be taken with meals or diluted with water or fruit juice. A tablespoonful (15 ml) in 8 ounces of water is approximately isotonic. More than a single tablespoonful should not be taken without prior dilution.

PRECAUTIONS

Potassium is a major intracellular cation which plays a significant role in body physiology. The serum level of potassium is normally 3.8-5.0 mEq/liter. While the serum or plasma level is a poor indicator of total body stores, a plasma or serum level below 3.5 mEq/liter is considered to be indicative of hypokalemia. The most common cause of hypokalemia is excessive loss of potassium in the urine. However, hypokalemia can also occur with vomiting, gastric drainage and diarrhea.

Usually a potassium deficiency can be corrected by oral administration of potassium supplements. With normal kidney function, it is difficult to produce potassium intoxication by oral administration. However, potassium supplements must be administered with caution since, usually, the exact amount of the deficiency is not accurately known. Checks on the patient's clinical status and periodic EKG and/or serum potassium levels should be made. High serum potassium levels may cause death by cardiac depression, arrhythmias or arrest.

In patients with hypokalemia who also have alkalosis and a chloride deficiency (hypokalemic hypochloremic alkalosis), there will be a requirement for chloride ions. TWIN-K-CI is indicated for use in these patients.

ADVERSE REACTIONS

Symptoms of potassium intoxication include paresthesias of the extremities, flaccid paralysis, listlessness, mental confusion, weakness and heaviness of the legs, fall in blood pressure, cardiac arrhythmias and heart block. Hypokalemia may exhibit the following electrocardiographic abnormalities: disappearance of the P wave, widening and slurring of the QRS complex, changes of the ST segment and tall peaked T waves.

TWIN-K-CI taken on an empty stomach in undiluted doses larger than 30 ml can produce gastric irritation with nausea, vomiting, diarrhea, and abdominal discomfort.

OVERDOSAGE

The administration of oral potassium supplements to persons with normal kidney function rarely causes serious hyperkalemia. However, if the renal excretory function is impaired, potentially fatal hyperkalemia can result. It is important to note that hyperkalemia is usually asymptomatic and may be manifested only by an increased serum potassium concentration with or without EKG changes.

Treatment measures include:

- 1 Elimination of potassium containing drugs or foods.
- 2 Intravenous administration of 300 to 500 mEq of a 10% dextrose solution containing 10-20 units of crystalline insulin per 1000 milliliters.
- 3 Correction of acidosis.
- 4 Use of exchange resins or peritoneal dialysis.

In treating hyperkalemia, it should be noted that patients stay on digitals can develop digitalis toxicity when the serum potassium concentration is changed too rapidly.

DOSE AND ADMINISTRATION

The usual adult dosage is one tablespoonful (15 ml) in 6 fluid ounces of water or fruit juice, two to four times a day. This will supply 30 to 60 mEq of potassium ions and 8 to 12 mEq of chloride ions. The usual preventive dose of potassium is 20 mEq per day while therapeutic doses range from 30 to 100 mEq per day. Because of the potential for gastrointestinal irritation, undiluted large single doses (30 mEq or more) of TWIN-K-CI are to be avoided.

Deviations from this schedule may be indicated, since no total daily dose can be defined, but must be governed by observation for clinical effects.

HOW SUPPLIED Bottles of 1 pint (16 fl oz)

NDC 0524-

MANUFACTURED & DISTRIBUTED BY

Boots Pharmaceuticals, Inc.

Shreveport, Louisiana 71106

Pioneers in Medicine For the Family



North Carolina Department Of Human Resources

RURAL HEALTH SERVICES

An important topic at many national and regional meetings today is how to assure access to medical care, especially for rural residents. In response to such needs, North Carolina has since 1974 increased the number of counties where primary medical care resources are considered adequate from 19 to 63.

Several developments have assisted us in making such medical services available in rural areas. The Area Health Education Centers helped in decentralizing medical education and in helping the physician in isolation keep up to date. Since 1976, 200 family physicians have trained in the program, 123 of whom have remained in North Carolina and 70 of whom have located in towns under 25,000.

We have been pleased with the success of our own Department of Human Resources' Office of Rural Health Services (ORHS). Though initially established to help set up rural health centers staffed by family nurse practitioners, the office has turned its attention to physician placement. It has been particularly active in the 42 counties which had in 1974 the worst primary physician to population ratios. By September 1980, the office had assisted these counties in the placing of 103 physicians and had also helped 14 communities establish and maintain rural health centers. Since its establishment, the office has assisted 28 communities in the establishment of primary care centers and placed more than 250 physicians, some of whom have

replaced nurse practitioners and physician assistants.

Such success would not have been possible without the support of medical leadership, especially in those early years when physicians were scarce. Today, when much ORHS work is directed toward assisting small rural communities seeking physicians and helping physicians to find rural practices, our success is still highly dependent on the support of organized medicine.

Retaining physicians and other health providers in our small towns is another objective of the Office of Rural Health Services. The staff's technical assistance program appears to be extremely effective in accomplishing this objective, as the office works closely with recipients of National Health Service Corps scholarships trained *in* North Carolina.

Though reduced in number, many areas in North Carolina still need additional primary health resources. Also, as some of you approach retirement, you may be looking to the future, considering ways to provide continuing care to your patients. If your Office of Rural Health can be of assistance to you in finding physicians interested in such practice, I hope you will let me know.

Sarah T. Morrow, M.D., M.P.H.
Secretary,
N.C. Department of Human Resources
325 North Salisbury Street
Raleigh, N.C. 27611

Correspondence

FAMILIAL OVARIAN CANCER REGISTRY

To the Editor:

There are increasing reports of ovarian cancer occurring in two (2) or more family members. The Familial Ovarian Cancer Registry will evaluate this increase to obtain information for genetic counseling to family members. Case accrual will evaluate:

- the number of cases of familial ovarian cancer
- the type of inheritance
- the relationship to breast and endometrial carcinoma

- the study of environmental, geographical and racial factors

- genetic counseling

Please address inquiries regarding the clinical history of any family with two (2) or more members with ovarian cancer to:

M. Steven Piver, M.D., Director
Familial Ovarian Cancer Registry
Roswell Park Memorial Institute
New York State Department of Health
666 Elm Street
Buffalo, New York 14263
Telephone: (716) 845-3110

Introducing...

TEGA-CORT FORTÉ 1% - TEGA - CORT - 0.5%

(Available at all drug stores - Rx Only)

SQUEEZE TYPE DISPENSER BOTTLES

Tega-Cort Forté and **Tega-Cort** lotions are offered in a nice smooth non-staining water soluble base.

Indications: For relief of the inflammatory manifestations of corticosteroid responsive dermatoses including Poison Ivy, and sunburn.

Contraindications: Topical steroids have not been reported to have an adverse effect on pregnancy, the safety of their use in pregnant females has not absolutely been established. Therefore, they should not be used extensively on pregnant patients, or in large amounts, or for prolonged periods of time.

Dosage and Administration: Apply to affected area 3 or 4 times daily as directed by your physician.

Caution: Federal law prohibits dispensing without prescription. For external use only. Store in a cool place but do not freeze.

PLEASE CONSULT INSERT SUPPLIED WITH EACH BOTTLE FOR MORE DETAILED INFORMATION

WE FEATURE ONE OF THE MOST COMPLETE LINE OF INJECTIBLES IN THE SOUTH-EAST AT THE VERY BEST PRICE, CONSISTENT WITH QUALITY.

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Bulletin Board

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Koubek, Terry Dean, (RESIDENT) 1210 Foxhall Drive, Winston-Salem 27106

Lipoff, Scott Lee, (STUDENT) 338 Crafton Street, Apt. #1, Winston-Salem 27103

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Qureshi, Aftab Ahmad, (GS) 312 S. Academy Street, Ahoskie 27910

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Lieu, Chong Hieun, (PD) 914 Fieldstone Road, Mooresville 28115

Madry, James Thomas, (OBG) Route #2, Box 510, Mooresville 28115

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Dennis, Patrick Michael, (OPH) Doctor's Drive, Kinston Clinic North, Kinston 28501

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Kohener, Isak, 824 S. Aspen Street, Lincolnton 28092

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Atkins, Michael Patrick, (OBG) 501 Walking Stick Trail, Clinton 28328

Carver, Walter Dickinson, (ORS) Sampson County Mem. Hospital, Medical Office Building, Clinton 28328

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Ellis, Robert Gardner, (EM) 716 Lake Boone Trail, Raleigh 27607

Nassef, George Joseph, (EM) P.O. Box 19553, Raleigh 27619

Stadiem, Michael David, (FP) 107 Eagle Court, Cary 27511

Unger, Henry Alan, (U) 915 Kildaire Farm Road, Cary 27511
Yarborough, Michael Francis, (GS) 3801 Computer Drive, Raleigh 27609

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Neeland, David Blair, (R) 1102 Robin Hill Road, Wilson 27893

WHAT? WHEN? WHERE? In Continuing Education

Please note: 1. The Continuing Medical Education Programs at Bowman Gray, Duke, East Carolina and UNC Schools of Medicine, Dorothea Dix, and Burroughs Wellcome Company are accredited by the American Medical Association. Therefore CME programs sponsored or cosponsored by these schools automatically qualify for AMA Category I credit toward the AMA's Physician Recognition Award, and for North Carolina Medical Society Category A credit. Where AAFP credit has been requested or obtained, this also is indicated.

2. The "place" and "sponsor" are indicated for a program only when these differ from the place and source to write "for information."

June 3

"What's New in Cardiovascular Imaging — Echo, Nuclear & CAT?"

Place: Pitt County Memorial Hospital, Greenville

Fee: \$30

Credit: 6 hours

For Information: F. M. Simmons Patterson, M.D., Assistant Dean for Continuing Medical Education, East Carolina University School of Medicine, Greenville 27834

June 4-5

"The Joint Lipid Symposium (Duke and UNC)"

Place: The Governor's Inn; Research Triangle Park, N.C.

Fee: Free

Credit: 9 hours

For Information: Dr. Steven Quarfordt; GI Dept.; Duke Univ. Med. Ctr., Durham 27710 Telephone: 684-3572

June 5-6

"Preventive Perinatal Medicine"

Place: Berryhill Hall, UNC, Chapel Hill

Fee: \$60

Credit: 9½ hours

For Information: William Wood, M.D., Dept. of Cont. Med. Ed., UNC, Chapel Hill 27514

June 17

"Critical Care Medicine/Surgery"

Place: Holiday Inn, Sanford, N.C.

Fee: \$12.00

Credit: 3½ hours

For Information: R. S. Cline, M.D., Director of Cont. Med. Ed., Sanford 27330 Telephone: (919) 775-2111, Ext. 219

June 18-21

"Dermatology for the Non-Dermatologists"

Place: Myrtle Beach Hilton, Myrtle Beach, South Carolina

Fee: \$275

Credit: 14 hours

For Information: Gerald Lazarus, M.D., (Ms. Gail McLamb), Duke University Medical Center, Durham 27710 (919) 684-2504

July 10-12

31st Annual Institute on Tuberculosis & Other Respiratory Diseases

Place: YMCA — Blue Ridge Assembly, Black Mountain

Fee: \$30

For Information: C. Scott Venable, Executive Director, American Lung Association of N.C., P.O. Box 27985, Raleigh 27611 or (919) 832-8326.

HOLLY HILL HOSPITAL—A HOSPITAL COMMUNITY

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For further information, please contact:

Mr. Cliff Christiansen, Administrator
Dr. Robert L. Green, Jr., Medical Director
3019 Falstaff Road
Raleigh, North Carolina 27610
(919) 755-1840

Fully accredited by Joint Commission on Accreditation of Hospitals for adults, children, adolescents, and drug-alcohol abuse

Licensed by the State of North Carolina

Participants in Medicaid/Medicare Program

July 13-17

23rd Annual Postgraduate Course (Morehead Symposium)
Place: Bogue Banks Country Club, Atlantic Beach
Fee: \$235
Credit: 30 hrs, AAFP applied for
For Information: Harry A. Gallis, M.D., Box 3306, Duke University Medical Center, Durham (919) 684-3279

July 16-18

3rd Annual Mountain Meeting
Place: Grove Park Inn, Asheville
Credit: 12 hrs
Fee: \$100
For Information: Emery C. Miller, M.D., Dept. of Cont. Ed., Bowman Gray School of Medicine, Winston-Salem

July 27-August 1

Radiology Postgraduate Course
Place: Bogue Banks Country Club, Atlantic Beach
Fee: \$250
Credit: 30 hrs, AAFP applied for
For Information: Donald Kirks, M.D., Box 3308, Duke Med. Ctr., Durham 27710

July 31, Aug. 1

Symposium on Cardio-Vascular Diseases
Place: Holiday Inn, Wrightsville Beach
Information: Emile E. Werk, Jr., M.D. Chief of Medicine, University Medical Service, Area Health Education Center, 2131 South 17th St., Wilmington 28401

The items listed in the above column are for the six months immediately following the month of publication. Requests for listing should be received by "WHAT? WHEN? WHERE?", P.O. Box 27167, Raleigh 27611, by the 10th of the month prior to the month in which they are to appear. A "Request for Listing" form is available on request.

AUXILIARY TO THE NORTH CAROLINA MEDICAL SOCIETY

BOOK REVIEWS

Sontag, Susan: *Illness as Metaphor*. New York, Farrar, Straus and Giroux, 1977.

That which we don't fully understand is often explained through myths or metaphors. Such symbolization makes manageable that which before was uncertain, uncontrollable. So it is with certain diseases. Unable to break their code, powerless to change them, and lacking clear attitudes toward death, we retreat behind superstition in an almost primitive ritual. We turn the disease into a public image. That which is most horrible is likened to this illness. It is as if the incantation will deny it its power, or at least send it knocking on someone else's door.

It is on this myth-making process as it relates to cancer that Susan Sontag turns her focus in *Illness as Metaphor*. It is Miss Sontag's premise that cancer is no longer a medical term signifying a certain disease, but that cancer has become a metaphor, a symbol synonymous with death and an idiom of all that we find reprehensible in our culture. To be ill with cancer is not just to have cancer but it is to enter a world of social connotations. Implicit within the metaphor are the beliefs that there is a specific cancer prone person-

ality, that this personality is capable of bringing about his own illness, and that he can therefore cure himself by mobilizing his own will. Not only is the cancer patient made to feel he deserves what he has brought on himself, but also the responsibility of healing is placed solely on that patient, at a time when everything undesirable in society is compared to the disease he now has. When treated as terminal and infectious (morally, if not literally), it is little wonder that the patient is unable to achieve independence and clarity, to shake off the societal stigma and concentrate on his own well being.

To think of cancer in such metaphorical terms is therefore dangerous. It gives to cancer a power which it should not have, that is, the power to be psychologically as well as physically harmful.

In her effort to demythologize cancer, strip it of its metaphorical innuendo, Miss Sontag compares and contrasts its imagery with the imagery of the 19th century disease tuberculosis. According to Miss Sontag, both illnesses grew out of the same root — consumption. However, their metaphorical qualities took on antithetical relationships. TB was believed to bestow upon its recipient an ultimate spiritual refinement. It connoted sensitivity, creativity and heightened consciousness. Cancer, on the other hand, brought to its recipient humiliation and fear. Cancer became indicative of all that was undesirable and unredeemable. Its very treatment became a military campaign. Patients were bombarded with toxic rays; the offending cells were excised by radical surgery. Such thinking was not confined to the personal arena but became part of the cultural idiom as well. Cancer became the nomenclature by which we described politics (John Dean explained Watergate to Nixon: "We have a cancer within"), peoples (the Jews were a cancer to be excised by Hitler) and societies (Communism is a repressive cancer.) The way we talk about illness simply reinforces our beliefs about that illness.

While Miss Sontag builds her case on the writings of many others — novelists, historians, psychologists — that case is not always substantiated. Pointing out that TB resulted in thinness and was thus romanticized to connote a certain beauty or languor, she then states that the 20th century emphasis on thinness is the last vestige of this metaphor. But perhaps her intent is not to prove, but to awaken our sensitivities to the awareness that metaphorical thinking does pervade our lives as well as qualify those lives.

Miss Sontag's intent is not to trace the metaphorical thinking to a single cause: the physician's inability to cure; society's inability to provide for its people in an advanced technological state; the individual's inability to find meaning in death. They may all be a part of it. Her intent is rather to clarify our thinking about illness, particularly the illness cancer. Her point is that we must disinfect ourselves of its imagery if we are to be able to focus upon a cure. Taking cancer out of the psychological arena and replacing it in the medical one will restore our sensibility and factuality in dealing with this disease. Only then will we be able

to look critically on this process of both living and dying.

SUE ELLEN McNEIL

Lear, Martha Weinman: *Heartsounds*. New York, Simon and Schuster, 1980.

How does the average doctor react to a threat on his own body? If he is like Harold Lear, former urologist turned sex therapist, he denies it. Then he seeks help and reassurance, and finally, he is angry and wants his

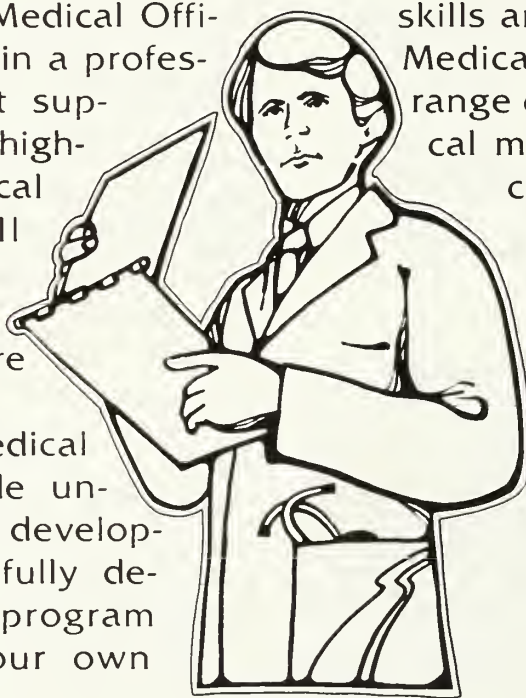
colleagues to remedy the situation when at 53 he is stricken with a heart attack. This is a non-fiction account of a man whose familial history on both sides reveals early deaths due to coronaries. He is able to deal with this, but what he cannot understand and rages about is the treatment or lack of understanding exhibited by his colleagues.

Hal Lear's desire to live and "beat this thing" is the driving force in this true drama that moves this book along to its inevitable conclusion. Along with this

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spirit, he is supported by his loyal, loving journalist wife. What begins as his account of being a patient, ends as his wife's account and tribute to her husband's indomitable courage and ceaseless questioning.

Among the problems encountered by Lear is an emotionally detached doctor who gives glib non-answers, joking retorts to real questions and has the ability to make the patient feel at fault for not recovering. Defensiveness is another characteristic he encounters too often.

The descriptive passages and there are many, are vivid. Mrs. Lear's accounts of fright following surgery and heart failure in Dr. Lear, anger when an intern is too busy to respond to an urgent call, and tenderness as their intimacy grows with the threat of its being taken away are especially engrossing. Dr. Lear's passages describing the coronary angiography, his inability to bounce back following bypass surgery and subsequent heart attacks and his endless search (in the literature) to find the answers eluding him and his recovery are most touching. He never loses sight of his own self-esteem and of the details of everyday life, which make his story worthwhile in the human sense. His attention to detail in all aspects make it unique in the medical sense.

Heartsounds is a book that could have been written as a good fictional medical story. That it is a true account makes it worth reading by all medical people who are dedicated to good patient care. The author leaves us with an understanding of the "joy of life."

JUDY MOUNTJOY

News Notes from the—

**EAST CAROLINA UNIVERSITY
SCHOOL OF MEDICINE**

Dr. James Akers, assistant professor of microbiology, presented "Analysis of Ribonucleic Acids from Complete and Defective Coxsackie Virus B-4" at the annual meeting of the American Society for Microbiology in Dallas, Texas.

Dr. Charles Ravaris, professor of psychiatry, recently was appointed a consultant to the National Institute of Mental Health. Ravaris will assist state psychiatric hospitals in upgrading the quality of patient care.

Ravaris is the author of "Current Drug Therapy for Agoraphobia" in the January issue of *American Family Physician*.

Dr. Andrea Hunter, assistant professor of pharmacology attended the Society of Toxicology meeting in San Diego, Calif., where she presented "The Influence of Some Thiono-sulfur Containing Compounds

on Glutathione S-transferase Activity of Rat Liver Cytosol."

Dr. Irvin Blose, professor of psychiatry, is the author of "Difference in Brain Density between Chronic Alcoholic and Normal Control Patients" in the January issue of *Science*.

Dr. Allen Bowyer, professor of medicine, attended the Ninth Annual Northeastern Bioengineering Conference at Rutgers University where he presented "Information Theory — Determinations of Best Diagnostic Values of Number and Severity of Coronary Stenosis for Angina and Left Ventricular Dysfunction" and "Left Ventricular Wall Motion Analysis by a Coordinate Free Vector Computation Technique." Bowyer also attended the American College of Cardiology's Annual Scientific Session in San Francisco and presented "Exercise Induced Arterial Hypotension — A Normal Response to Severe Exercise."

Dr. Sam Pennington, professor of biochemistry, is co-author of "The Effect of Ethanol on the Metabolism of Prostaglandins and Related Compounds," a chapter appearing in *Alcohol and Aldehyde Metabolizing Systems - IV* published in January 1981 by Plenum Publishing Corporation.

Dr. G. Lynis Dohm, associate professor of biochemistry, is the author of "Influence of Exercise on Free Amino Acid Concentrations in Fat Tissues" which appeared in the January issue of the *Journal of Applied Physiology*. Dr. Dohm has been appointed to the grant review subcommittee of the N.C. Heart Association.

Drs. Hisham Barakat and G. Lynis Dohm, associate professors of biochemistry, published "Changes in Plasma Lipids and Lipolytic Activity During Recovery from Exercise of Untrained Rats" which appeared in the February 1981 "Proceedings of the Society for Experimental Biology and Medicine."

Walter L. Shepherd, director of Health Services Research and Development Center, presented "Cross Cultural Influences and the Impact of the Nurse Practitioner Role" at the N.C. Nurse Practitioner Winter Conference held in Greenville.

Dr. Donald Hoffman, associate professor of pathology, is the author of "Allergic Reactions to Biting Insects," a chapter in *Monograph on Insect Allergy* published by the American Academy of Allergy,

Committee on Insects. Hoffman also authored "Venom Immunotherapy: Comparison of 'Rush' vs. 'Conventional' Schedules" in *Annals of Allergy*.

* * *

Drs. Richard Athey and S. Gregory Iams, assistant professors of physiology, are the authors of "Cold-restraint Induced Gastric Lesions in Normotensive and Spontaneously Hypertensive Rats" in the February issue of *Life Sciences*.

* * *

Dr. Donald W. Barnes, assistant professor of pharmacology, recently presented "Studies on the Inhibition of Hepatic Microsomal Mixed-Function Oxidases in the Mouse by the Immunomodulator Maleic Anhydride-Divinyl Ether (DIVEMA) Copolymer" at the national meeting of the Reticuloendothelial Society in Tampa, Fla.

* * *

Dr. Wilhelm R. Frisell, chairman and professor of the Department of Biochemistry, has been named chairman of the review group for the International Post-doctoral Fellowship Program at the Fogarty International Center of the National Institutes of Health. Frisell recently served as a member of the Senior International Fellowship Program of the Center.

* * *

Dr. E. Jackson Allison, chairman and professor of the Department of Emergency Medicine, was a visiting professor at the St. Georges University School of Medicine in Grenada, West Indies, March 23-27.

* * *

Dr. Edward M. Lieberman, professor of physiology, and Kathleen Smiley, research associate, published "Electrophysiological and Pharmacological Properties of Glial Cells Associated with the Medial Giant Axon of the Crayfish with Implications for Neuron-glial Cell Interactions" in the February issue of the *Upsala Journal of Medical Science*. Lieberman is also the author of "The Nature of the Membrane Potential of Glial Cells Associated with the Medial Giant Axon of the Crayfish" in the March issue of *Neuroscience*.

* * *

Ron Morrison, research technician in the Department of Physiology, presented "The Effects of Gonadectomy on the Inotropic Response of Isolated Hearts from Male Spontaneously Hypertensive Rats (SHR)" to the N.C. Academy of Science in Charlotte, N.C., April 3-5.

* * *

Dr. John Moskop, assistant professor of pediatrics and humanities, presented "The Retarded as Gifts" at the Southern Regional Society for Health and Human

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Indications

Cyclacillin has less *in vitro* activity than other drugs in the ampicillin class and its use should be confined to these indications. Treatment of the following infections:

RESPIRATORY TRACT

Tonsillitis and pharyngitis caused by Group A beta-hemolytic streptococci
Bronchitis and pneumonia caused by *S. pneumoniae* (formerly *D. pneumoniae*)

Otitis media caused by *S. pneumoniae* (formerly *D. pneumoniae*) and *H. influenzae*
Acute exacerbation of chronic bronchitis caused by *H. influenzae*

*Though clinical improvement has been shown, bacteriologic cures cannot be expected in all patients with chronic respiratory disease due to *H. influenzae*.

SKIN AND SKIN STRUCTURES (integumentary) infections caused by Group A beta-hemolytic streptococci and staphylococci, non-penicillinase producers.

URINARY TRACT INFECTIONS caused by *E. coli* and *P. mirabilis*. (This drug should not be used in any *E. coli* and *P. mirabilis* infections other than urinary tract.)

NOTE: Perform cultures and susceptibility tests initially and during treatment to monitor effectiveness of therapy and susceptibility of bacteria. Therapy may be instituted prior to results of sensitivity testing.

Contraindications Contraindicated in individuals with history of an allergic reaction to penicillins.

Warnings Cyclacillin should only be prescribed for the indications listed herein.

Cyclacillin has less *in vitro* activity than other drugs of the ampicillin class. However, clinical trials demonstrated it is efficacious for recommended indications.

Serious and occasional fatal hypersensitivity (anaphylactoid) reactions have been reported in patients on penicillin. Although anaphylaxis is more frequent following parenteral use, it has occurred in patients on oral penicillins. These reactions are more apt to occur in individuals with history of sensitivity to multiple allergens. There are reports of patients with history of penicillin hypersensitivity reactions who experienced severe hypersensitivity reactions when treated with a cephalosporin. Before penicillin therapy, carefully inquire about previous hypersensitivity reactions to penicillins, cephalosporins and other allergens. If allergic reaction occurs, discontinue drug and initiate appropriate therapy. Serious anaphylactoid reactions require immediate emergency treatment with epinephrine, Oxygen, I.V. steroids, airway management, including intubation, should also be administered as indicated.

Precautions Prolonged use of antibiotics may promote overgrowth of nonsusceptible organisms. If superinfection occurs, take appropriate measures.

PREGNANCY Pregnancy Category B. Reproduction studies performed in mice and rats at doses up to 10 times the human dose revealed no evidence of impaired fertility or harm to the fetus due to cyclacillin. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, use this drug during pregnancy only if clearly needed.

NURSING MOTHERS It is not known whether this drug is excreted in human milk. Because many drugs are, exercise caution when cyclacillin is given to a nursing woman.

Adverse Reactions Oral cyclacillin is generally well tolerated. As with other penicillins, untoward sensitivity reactions are likely, particularly in those who previously demonstrated penicillin hypersensitivity or with history of allergy, asthma, hay fever, or urticaria. Adverse reactions reported with cyclacillin: diarrhea (in approximately 1 out of 20 patients treated), nausea and vomiting (in approximately 1 in 50), and skin rash (in approximately 1 in 60). Isolated instances of headache, dizziness, abdominal pain, vaginitis, and urticaria have been reported. (See WARNINGS) Other less frequent adverse reactions which may occur and are reported with other penicillins are anemia, thrombocytopenia, thrombocytopenic purpura, leukopenia, neutropenia and eosinophilia. These reactions are usually reversible on discontinuation of therapy.

As with other semisynthetic penicillins, SGOT elevations have been reported.

As with antibiotic therapy generally, continue treatment at least 48 to 72 hours after patient becomes asymptomatic or until bacterial eradication is evidenced. In Group A beta-hemolytic streptococcal infections, at least 10 days' treatment is recommended to guard against risk of rheumatic fever or glomerulonephritis. In chronic urinary tract infection, frequent bacteriologic and clinical appraisal is necessary during therapy and possibly for several months after. Persistent infection may require treatment for several weeks.

Cyclacillin is not indicated in children under 2 months of age.

Patients with Renal Failure Cyclacillin may be safely administered to patients with reduced renal function. Due to prolonged serum half-life, patients with various degrees of renal impairment may require change in dosage level (see DOSAGE AND ADMINISTRATION in package insert).

Dosage (Give in equally spaced doses)

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|-----------------------------|--------------------------|--|
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| Tonsillitis & Pharyngitis | 250 mg q.i.d. | body weight < 20 kg (44 lbs) 125 mg q.i.d. body weight > 20 kg (44 lbs) 250 mg q.i.d. |
| Bronchitis and Pneumonia | | |
| Mild or Moderate Infections | 250 mg q.i.d. | 50 mg/kg/day q.i.d. |
| Chronic Infections | 500 mg q.i.d. | 100 mg/kg/day q.i.d. |
| Otitis Media | 250 mg to 500 mg q.i.d.† | 50 to 100 mg/kg/day† q.i.d. |
| Skin & Skin Structures | 250 mg to 500 mg q.i.d.† | 50 to 100 mg/kg/day† q.i.d. |
| Urinary Tract | 500 mg q.i.d. | 100 mg/kg/day |

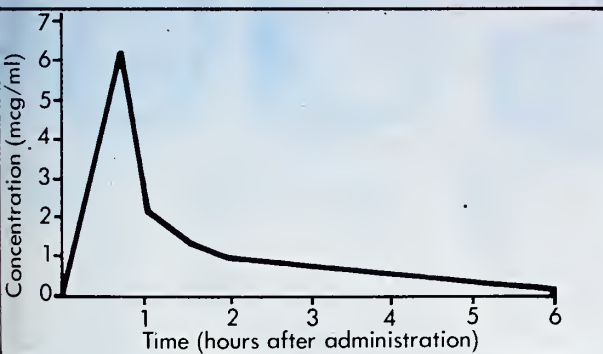
*Dosage should not result in a dose higher than that for adults.

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†Due to susceptible organisms.

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Values. "Ethical and Social Issues in Reproductive Biology" was the theme for the meeting held in Norfolk, Va., March 26-27.

News Notes from the

UNIVERSITY OF NORTH CAROLINA- CHAPEL HILL SCHOOL OF MEDICINE AND NORTH CAROLINA MEMORIAL HOSPITAL

The School of Medicine's division of neurosurgery has received a five-year, \$900,000 contract to evaluate the effectiveness of the newest therapies for malignant brain tumors.

The National Cancer Institute selected UNC-CH as one of only two new participants in its Brain Tumor Study Group and one of only seven institutions in the United States to receive funding through 1985.

Dr. M.S. Mahaley Jr., professor and chief of neurosurgery, said the funds will be used to pay for support personnel, chemotherapy, laboratory tests, data processing and patient care items not already provided by the Clinical Research Unit at N.C. Memorial Hospital.

"During the past few years, the university has become a major brain tumor referral center, and we are now treating over 90 patients from North Carolina and neighboring states," Mahaley said. "A large part of the success we've had has resulted from the great cooperation given us by neurosurgeons, oncologists and radiotherapists who have referred patients to us.

"We're very grateful to these physicians and, of course, to the patients and their families whom we try to provide with a therapeutic experience that is both effective and supportive."

Mahaley and his colleagues are treating two groups of patients — those who, following surgery, have just been diagnosed as having malignant brain tumors and those who are discovered later to have recurrence of their illness. Specific treatments are based on tumor type and location.

Collaborating with Mahaley in the research and treatment effort are Drs. Gustavo Montana, professor and director of radiation therapy; Robert A. Whaley, associate professor of radiology; and Martin R. Krigman, professor of neuropathology.

Other members of the National Cancer Institute's Brain Tumor Study Group are Memorial Sloan-Kettering Cancer Institute, New York University and the universities of Indiana, Iowa, Pittsburgh and Tennessee.

* * *

The North Carolina Jaycee Burn Center at N.C. Memorial Hospital opened February 23 when the five

patients in the hospital's old burn unit were moved into the new \$2.3 million facility.

"This is the day that thousands of people across this state have prayed for and worked toward for so long," said Dr. Roger Salisbury, Burn Center director. He noted that North Carolinians have contributed almost \$2 million to help build the burn center and to support its patient care, research and educational activities.

"We have been promising to provide the most expert, comprehensive care for North Carolinians who are critically burned, in a modern facility that is second to none," Salisbury said. "Today we start making good on that promise."

The new burn center has 23 patient beds, but not all of them will be used immediately, according to Salisbury. The number of patients admitted to the burn center will increase gradually over the next few months as additional nurses and support personnel are hired and trained. Eventually the burn center will have a staff close to 200.

The burn center occupies 18,000 square feet of space on the fifth floor of the new Patient Support Tower at N.C. Memorial Hospital. Unique features include a special operating room and recovery room, mobile x-ray equipment, temperature and humidity controls for each patient's room, diagnostic and research laboratories, a children's playroom and a small chapel.

* * *

Dr. Yung-Chi Cheng, professor of pharmacology and medicine and member of the Cancer Research Center, received one of the three awards presented annually by the American Association for Cancer Research.

Cheng, head of the Cancer Research Center's drug development program, received the second Rhodes Memorial Award at the association's April meeting in Washington, D.C.

The award is given in recognition of meritorious achievement in cancer research. It honors Dr. C. P. Rhodes, a founder and first director of the Sloan-Kettering Institute for Cancer Research. Nominations are made by association members.

A Taiwan native, Cheng came to the University of North Carolina at Chapel Hill in 1978 to head the drug development program in the Cancer Research Center, a part of the School of Medicine. Before coming to Chapel Hill, he was principal cancer research scientist at Roswell Park Memorial Institute in Buffalo, N.Y., and postdoctoral fellow in the laboratory of Dr. William Prusoff at Yale University School of Medicine.

He earned his B.S. in chemistry from Tunghai University in Taiwan and his Ph.D. in biochemical pharmacology from Brown University in Rhode Island.

* * *

The School of Medicine honored seven individuals March 20 for their contributions to medical education and health care.

Six Distinguished Service Awards and one Distinguished Faculty Award were presented at the annual awards banquet of the Medical Alumni Association.

Distinguished Service Awards, the School of Medicine's highest honors, were presented to: Jane Harris Armfield of Greensboro, a member of the boards of Moses Cone and N.C. Memorial hospitals; Rep. James T. Broyhill of North Carolina's 10th Congressional District; Dr. John L. McCain, a Wilson physician; Dr. Hubert C. Patterson Jr., of Chapel Hill, a retired UNC-CH medical faculty member; and Dr. Robert W. Winters, professor of pediatrics, Columbia University College of Physicians and Surgeons. The late Dr. Samuel R. Newman, a Danville, Va., civic leader and pediatrician, received the award posthumously.

The Medical Alumni Association presented its Distinguished Faculty Award to Dr. Janet J. Fischer, Sarah Graham Kenan professor of medicine.

"The Distinguished Service Award was established in 1955 to recognize individuals whose outstanding careers and important contributions have enhanced the fullness of life in relation to the program of the university and its medical school," said Dr. Stuart Bondurant, dean of the School of Medicine, who presented the awards.

The Distinguished Faculty Award was presented to Fischer by Dr. William B. Blythe, professor of medicine at UNC-CH and president of the Medical Alumni Association.

He cited the extensive impact of her teaching in internal medicine and infectious disease on generations of North Carolina physicians.

"Dr. Fischer has long been respected as a teacher with intense devotion to each patient and to each student," he said. "She has served as a model of the successful woman physician, and she has helped hundreds of women to become competent and caring physicians."

Fischer joined the UNC-CH faculty in 1952. She received her A.B. degree from Vassar College and her M.D. from the Johns Hopkins University.

* * *

Dr. William Bowers, associate professor of surgery at the University of North Carolina at Chapel Hill School of Medicine, has been selected as the first Sterling Bunnell Traveling Fellow in Hand Surgery by the American Society for Surgery of the Hand.

Bowers is chief of hand surgery in the medical school's division of orthopaedic surgery. A Polk County native, he joined the faculty in 1973.

As part of the fellowship program, he will spend six to eight weeks this summer visiting some of the major centers for hand surgery in the world.

The fellowship is named in honor of Dr. Sterling Bunnell, generally recognized as the father of hand surgery. According to the society, the fellowship will be awarded annually to a surgeon with proven excellence in the practice and teaching of hand surgery.

The discipline combines orthopaedic, general, mi-

crovascular and plastic surgery techniques in dealing with upper extremity injury and disease.

* * *

Emergency room physicians and nurses from various parts of the state came to Chapel Hill recently for intensive training in the diagnosis and treatment of trauma victims.

The three-day course was the first of its kind offered in this state. It was sponsored by the North Carolina Committee on Trauma and the Trauma Center at North Carolina Memorial Hospital and the School of Medicine.

The course was designed by the American College of Surgeons to train emergency room personnel to determine how badly trauma victims are injured, to initiate the treatment needed to keep them alive and stabilize their conditions and to recognize when patients need to be referred to a major trauma center.

Dr. Herbert Proctor, director of the Trauma Center at N.C. Memorial Hospital, said the 16 physicians and four nurses participating in the course were also being trained to conduct similar courses for emergency room personnel in their own areas.

Proctor said it would be desirable for emergency room staffs in every hospital to have some training and experience in trauma care, noting that "trauma is still

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* * *

The Department of Family Medicine in the University of North Carolina at Chapel Hill School of Medicine is providing guidance and training support for establishment of some of the first family medicine training programs in South America.

Two leading physicians and health administrators from Venezuela are serving six-month fellowships in family medicine here to gain expertise in faculty development and medical training administration.

Upon returning to Venezuela this summer, Dr. Luis Wanderlinder will become head of the newly formed Department of Family Medicine at the University of Zulia in Maracaibo, the first of its kind in South America. Dr. Raphael Anselmi will return to Caracas as director of the first family medicine residency program in that city and only the second in Venezuela. Dr. John Frey, director of faculty development for the UNC-CH Department of Family Medicine, explained that the establishment of educational and training programs in family medicine is part of an overall plan to reorganize Venezuela's national health care system.

"This interest in family medicine reflects a desire to move away from a system in which there are so many specialists who just concentrate on one area of medicine," Frey said. "They want to have more health care generalists who will have status, training and credibility."

The fellowship program in which the Venezuelans are participating is a pilot program funded by a grant from the Kellogg Foundation. The grant was secured and the program developed through the joint efforts of the Society of Teachers of Family Medicine and the Pan American Federation of Association of Medical Schools.

Dr. Edward Shahady, chairman of family medicine at UNC-CH, is currently the national president of the Society of Teachers of Family Medicine and was instrumental in the establishment of these fellowship programs.

* * *

The appointments of a professor and an assistant professor in the School of Medicine have been announced by Chancellor Christopher C. Fordham III.

Dr. Frederic B. Askin has been appointed professor in the Department of Pathology, and Dr. James B. Hall has been appointed assistant professor in the Department of Obstetrics and Gynecology.

Askin, whose appointment was effective April 1, has been associate professor since 1979 at Washington University in St. Louis.

He is a member of the American Association of Pathologists, the International Academy of Pathology, the American Society of Clinical Pathologists, the American Thoracic Society, the Pediatric Pathology Club and the International Association of OB-GYN Pathologists.

A native of Richmond, Va., he received his A.B. in 1960 and his M.D. in 1964 from the University of Virginia.

Hall, whose appointment was effective Feb. 15, has been a visiting assistant professor at UNC-CH since July. Before coming here, he was an instructor at Harvard Medical School and gynecology/oncology fellow at Massachusetts General Hospital from 1978-1980. He was chief resident and senior clinical instructor at Miami Valley Hospital in Ohio from 1977-1978.

He is a junior fellow of the American College of Obstetrics and Gynecology and a member of the American Medical Association and the American Association of Gynecologic Laparoscopists.

A native of Dayton, Ohio, Hall received his A.B. in 1969 from Taylor University in Indiana and his M.D. in 1974 from the Medical University of South Carolina.

* * *

Chancellor Christopher C. Fordham III received the N.C. Academy of General Dentistry's Distinguished Service Award Feb. 21.

Fordham is the sixth recipient of the award and the first M.D. He was honored for his support of the UNC-CH School of Dentistry and of the state's general practitioners of dentistry and medicine.

* * *

The North Carolina Jaycee Burn Center at N.C. Memorial Hospital was well represented at April's annual meeting of the American Burn Association in Washington, D.C. Staff members presented six papers representing a broad range of topics concerning the treatment of burn patients. Following is a list of papers presented:

"Therapeutic Play Activities for Pediatric Burn Patients," Elizabeth Shute Cozart, coordinator of children's services in recreation therapy;

"Area Burn Education Program" Nancy Newman, head nurse, burn center;

"Evaporative Water Loss in Healed Skin Burns," Rebecca W. Carnes, nurse clinician, skin bank;

"The Importance of Collaborative Research in a Burn Center," Barbara Bunker, assistant professor, School of Nursing;

"Effect of Viable Versus Nonviable Skin Grafts on Macromolecular Synthesis in Wound Tissue," Albert J. Banes, assistant professor of surgery;

"The Cobra Splint: An Alternative to Pin Traction in Post Grafting Positioning of the Circumferentially Burned Upper Extremity," Sandy Reeves, occupational therapy.

* * *

Directors of Muscular Dystrophy Association clinics from Maryland to South Carolina met at Chapel Hill March 14-15 to review and discuss the latest methods of caring for children with MD and related disorders.

Their program emphasized practical approaches to patient management.

The MDA Clinic Directors Conference for the mid-atlantic states was chaired by Drs. Colin D. Hall and James F. Howard Jr., directors of the MDA clinic at North Carolina Memorial Hospital.

* * *

Dr. Joseph S. Pagano, professor of medicine and bacteriology and director of the Cancer Research Center, was a visiting lecturer at the Society of Fellows of Scripps Clinic and Research Foundation, Feb. 3 in La Jolla, Calif. He also participated in a meeting on Recent Progress in Diagnostic Laboratory Immunology Feb. 5 in San Diego, Calif.

* * *

Dr. James H. Scatliff, chairman of radiology, made a presentation at the Southern Pediatric Radiology Society meeting, Feb. 5-8, in Charleston, S.C.

* * *

Marlys M. Mitchell, professor and director of the division of occupational therapy, participated in a Learning Dynamics Inc., Institute seminar Feb. 9-10 in Atlanta.

* * *

Dr. Gustavo S. Montana, professor and director of radiation therapy, was a visiting professor at the Bowman Gray School of Medicine Feb. 18-19 in Winston-Salem. He lectured on "Carcinoma of the Cervix Stage IB, Results of Radiation Therapy."

* * *

Donald M. Cassata, associate professor of family medicine, attended a three-day meeting sponsored by the Society of Teachers of Family Medicine Feb. 23-25 in Kansas City. The title of the conference was "The Family in Family Medicine Curriculum."

* * *

Dr. William B. Wood, director of continuing education and alumni affairs, was a North Carolina delegate to the southeastern regional meeting of the American Society of Internal Medicine in New Orleans March 5-8. Wood is vice president-elect of the N.C. Society of Internal Medicine.

* * *

Dr. George Johnson, professor and vice chairman of surgery, was elected secretary-treasurer of the Southern Association for Vascular Surgery at its annual meeting Jan. 29-Feb. 1 in Dorado Beach, Puerto Rico.

* * *

Dr. Herbert J. Proctor, professor of surgery, presented two papers titled "Alveolar Osmotic Gradients in Adult Respiratory Distress Syndrome" and "In Vivo Spectrophotometric Monitoring of Cytochrome

Redox State" while acting as visiting professor Feb. 7-15 at State University of Groningen, the Netherlands.

News Notes from the—

DUKE UNIVERSITY MEDICAL CENTER

Scientific sessions and tributes to a well-known Duke physician and administrator were featured at the R. T. Parker Symposium April 2-4 in the Research Triangle Park. The event honored Dr. Roy T. Parker, chairman of the Department of Obstetrics and Gynecology at Duke University Medical Center from 1964 until his retirement last year. Parker remains an active member of the staff at Duke.

Sponsors of the symposium were the department and the F. Bayard Carter Society, a group made up of approximately 150 physicians trained in the OB-GYN department at Duke and named for the first professor in the department.

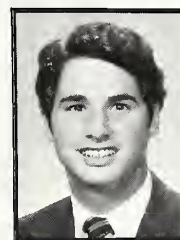
All 24 sessions of the symposium were led by Duke-trained physicians, including seven who are department chairmen at other institutions.

* * *

Scientists at the Duke University Eye Center have invented a new forceps with diamond-coated jaws capable of removing any object from the eye, regardless of the size, shape or material of the object. The key to the ingenious new forceps is the coating of



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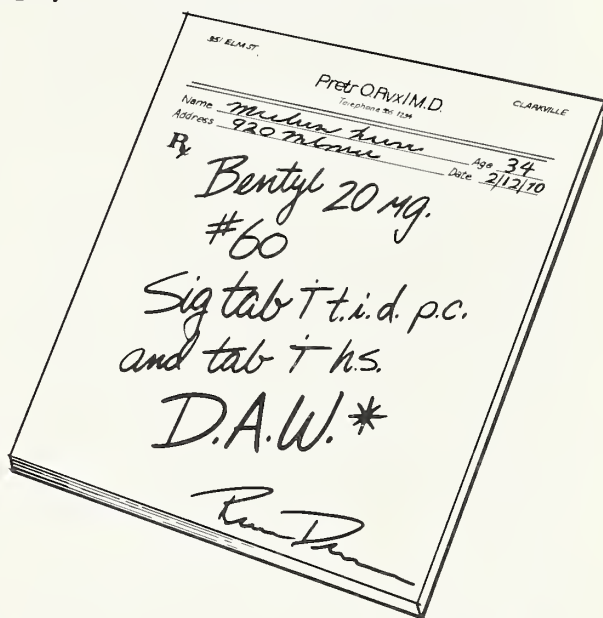


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- ⊗ Pharmacologic effect in the distal colon compared to placebo^{††} shows how Bentyl affects abnormal motor activity in the irritable colon patient.[†]

[†]This drug has been classified "probably" effective for this indication.

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^{††} In the experiments that showed significant pharmacologic effect, the dose of Bentyl used was 50 mg. I.M., which is higher than that permitted in the labeling. This dose was deemed justified since the recommended daily dose of injectable Bentyl is 20 mg. (2 ml.) every 4 to 6 hours. Thus, in 8 hours, a patient could receive a total of 60 mg. I.M. and at that time, as a result of the sustained plasma levels from the 20 mg. injections at 0 and 4 hours, might show an even higher plasma level that occurs after a single 50 mg. I.M. dose. Presumably, the same pharmacologic effect would follow. These observations do not constitute evidence of efficacy.

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Brief Summary

INDICATIONS

Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the following indications as "probably" effective.

For the treatment of functional bowel/irritable bowel syndrome (irritable colon, spastic colon, mucous colitis) and acute enterocolitis.

THESE FUNCTIONAL DISORDERS ARE OFTEN RELIEVED BY VARYING COMBINATIONS OF SEDATIVE, REASSURANCE, PHYSICIAN INTEREST, AMELIORATION OF ENVIRONMENTAL FACTORS.

For use in the treatment of infant colic (syndrome).

Final classification of the less-than-effective indications requires further investigation.

CONTRAINDICATIONS: Obstructive uropathy (for example, bladder neck obstruction due to prostatic hypertrophy); obstructive disease of the gastrointestinal tract (as in achalasia, pyloroduodenal stenosis); paralytic ileus, intestinal atony of the elderly or debilitated patient; unstable cardiovascular status in acute hemorrhage; severe ulcerative colitis; toxic megacolon complicating ulcerative colitis; myasthenia gravis.

WARNINGS: In the presence of a high environmental temperature, heat prostration can occur with drug use (fever and heat stroke due to decreased sweating). Diarrhea may be an early symptom of incomplete intestinal obstruction, especially in patients with ileostomy or colostomy. In this instance treatment with this drug would be inappropriate and possibly harmful. Bentyl may produce drowsiness or blurred vision. In this event, the patient should be warned not to engage in activities requiring mental alertness such as operating a motor vehicle or other machinery or perform hazardous work while taking this drug. There are rare reports of infants, 6 weeks of age and under, administered dicyclomine hydrochloride syrup, who have evidenced respiratory symptoms (breathing difficulty, shortness of breath, breathlessness, respiratory collapse, apnea), as well as seizures, syncope, asphyxia, pulse rate fluctuations, muscular hypotonia, and coma. The above symptoms have occurred within minutes of ingestion and lasted 20 to 30 minutes. The timing and nature of the reactions suggest that they were a consequence of local irritation and/or aspiration rather than a direct pharmacologic effect. No known deaths or permanent adverse effects have been reported. Bentyl syrup should be used with caution in this age group.

PRECAUTIONS: Although studies have failed to demonstrate adverse effects of dicyclomine hydrochloride in glaucoma or in patients with prostatic hypertrophy, it should be prescribed with caution in patients known to have or suspected of having glaucoma or prostatic hypertrophy.

Use with caution in patients with:

Autonomic neuropathy. Hepatic or renal disease. Ulcerative colitis. Large doses may suppress intestinal motility to the point of producing a paralytic ileus and the use of this drug may precipitate or aggravate the serious complication of toxic megacolon.

Hyperthyroidism, coronary heart disease, congestive heart failure, cardiac arrhythmias, and hypertension.

Hiatal hernia associated with reflux esophagitis since anticholinergic drugs may aggravate this condition.

Do not rely on the use of the drug in the presence of complication of biliary tract disease. Investigate any tachycardia before giving anticholinergic (atropine-like) drugs since they may increase the heart rate. With overdosage, a curare-like action may occur.

ADVERSE REACTIONS: Anticholinergics/antispasmodics produce certain effects which may be physiologic or toxic depending upon the individual patient's response. The physician must delineate these. Adverse reactions may include xerostomia; urinary hesitancy and retention; blurred vision and tachycardia; palpitations; mydriasis; cycloplegia; increased ocular tension; loss of taste, headache; nervousness; drowsiness; weakness; dizziness; insomnia; nausea; vomiting; impotence; suppression of lactation; constipation; bloated feeling; severe allergic reaction or drug idiosyncrasies including anaphylaxis; urticaria and other dermal manifestations; some degree of mental confusion and/or excitement, especially in elderly persons; and decreased sweating. With the injectable form there may be a temporary sensation of light-headedness and occasionally local irritation.

DOSEAGE AND ADMINISTRATION: Dosage must be adjusted to individual patient's needs.

Usual Dosage

Bentyl 10 mg. capsule and syrup. **Adults:** 1 or 2 capsules or teaspoonfuls syrup three or four times daily. **Children:** 1 capsule or teaspoonful syrup three or four times daily. **Infants:** ½ teaspoonful syrup three or four times daily. (Oilule with equal volume of water.)

Bentyl 20 mg. **Adults:** 1 tablet three or four times daily.

Bentyl Injection: **Adults:** 2 ml. (20 mg.) every four to six hours intramuscularly only.

NOT FOR INTRAVENOUS USE.

MANAGEMENT OF OVERDOSE: The signs and symptoms of overdose are headache, nausea, vomiting, blurred vision, dilated pupils, hot, dry skin, dizziness, dryness of the mouth, difficulty in swallowing, CNS stimulation. Treatment should consist of gastric lavage, emetics, and activated charcoal. Barbiturates may be used either orally or intramuscularly for sedation but they should not be used if Bentyl with Phenobarbital has been ingested. If indicated, parenteral cholinergic agents such as Urecholine® (bethanechol chloride USP) should be used.

Product Information as of July, 1980

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diamond splinters on its two parallel jaws, said Dr. Robert Machemer, director of the center and professor and chairman of the Department of Ophthalmology at Duke.

"Because diamonds are one of the hardest materials in existence, their splinters will dig into the surface of any material," he said. "Thus, they can firmly hold a round object or an irregularly shaped one, a tiny grain of sand, or a steel ball bearing."

Machemer is a pioneer in the development of the technique.

His colleagues in developing the all-purpose forceps were: Dyson Hickingbotham of the Ophthalmology Biophysics Research Laboratory at Duke, and Jean-Marie Parel of the Bascom Palmer Eye Institute of the University of Miami Medical School.

* * *

A statewide public symposium on Huntington's Disease was held April 11 at Duke University Medical Center. Huntington's Disease, the most famous victim of which was folksinger Woody Guthrie, is a progressive brain disorder — genetic and presently incurable — that affects about 15,000 persons in the United States.

Marjorie Guthrie, widow of Guthrie, was a featured speaker at the symposium. She is founder and president emerita of the Committee to Combat Huntington's Disease.

Also taking part was Dr. Ara Tourian, who said researchers are intensely interested in the disease because they believe it may unlock the secrets of the mechanisms of other genetic neurological disorders. Tourian is associate professor in the Department of Neurology of Duke University Medical Center. "At present, science doesn't understand fully any dominant-gene neurological diseases," he said. "Our hope is that Huntington's Disease can teach us about others."

The symposium, funded by the Belk-Tyler Foundation, was sponsored by the Committee to Combat Huntington's Disease and the N.C. Epsilon Chapter of Alpha Epsilon Delta, a premedical honor society at East Carolina University.

* * *

Health educators and administrators from 10 nations met April 22-25 at Duke University Medical Center for a "Conference on the Role of the University Teaching Hospital: An International Perspective." The conference was held in conjunction with dedication ceremonies for the new North Division of Duke University Hospital.

Sponsors of the event were the Josiah Macy, Jr., Foundation of New York, and the medical center.

The president of the Macy Foundation, James G. Hirsch, presided over the opening session and the opening address, "The Challenge of Developing a New Tertiary Care Hospital of the 1980s," was given

by Dr. William G. Anlyan, vice president for health affairs at the medical center.

* * *

The Duke University Medical Center is using a gas chromatograph mass spectrometer purchased with the approximately \$100,000 raised by the 1980 Duke Children's Classic Golf and Tennis Tournament. The machine, located in the pediatric metabolism division at the medical center, is used to screen, diagnose and help plan management of metabolic disorders of children. "With the spectrometer, we can obtain a definitive identification of any organic compound with more than one atom," said Dr. Charles Roe, chief of the pediatric metabolism division. Roe said the spectrometer also is useful in identifying toxins in the body and in his unit's long-range work with patients with Reye's Syndrome.

* * *

Some of the world's leading eye surgeons met April 10-11 at Duke to exchange ideas on vitreous surgery, one of the fastest-developing areas of ophthalmology. The Advanced Vitreous Surgery Course was presented by the Eye Center, whose director is Dr. Robert Machemer, chairman of the Department of Ophthalmology.

Machemer served on the conference faculty, along with Drs. Maurice Landers and Brooks McCuen, both on the ophthalmology faculty.

* * *

The new North Division of Duke University Hospital was dedicated Saturday, April 25, making the conclusion of the medical center's celebration of its fiftieth year. Speaker at the dedication was Steven Muller, president of The Johns Hopkins University and the Johns Hopkins Hospital. Muller is the only person in this century to hold both presidencies at the Baltimore institution.

Presiding over the ceremonies was Dr. William G. Anlyan, vice president for health affairs at Duke. Terry Sanford, president of Duke University, made remarks and introduced the speaker.

Remarks also were given by: Archie K. Davis, chairman of the board of the Duke Endowment; Dr. David C. Sabiston, Jr., chief of staff of Duke University Hospital; Dr. Roscoe R. Robinson, associate vice president and chief executive office of Duke University Hospital; and J. Alexander McMahon, chairman of the board of trustees of Duke University.

* * *

Bernice Neugarten, deputy chairman of the 1981 White House Conference on Aging, lectured on "Aging Policies of the 1980s" on April 14 at Duke University Medical Center. Neugarten is professor of education in the Department of Sociology at Northwestern University and was a founding member of the National Advisory Council of the National Institute on Aging. She is a recipient of the distinguished re-

search award of the Gerontological Society. Her lecture was presented by the Duke University Council on Aging and Human Development and the Carter Lectureship of the School of Nursing.

* * *

James E. Lowe, in the Department of Surgery, was awarded a five-year Established Investigatorship from the American Heart Association. Harris is studying "Detection of Ischemic Injury During Cardiac Operations."

* * *

Daniel B. Menzel, professor in the Department of Pharmacology and associate professor in the Department of Medicine was awarded a \$43,006 research grant from the National Institute of Environmental Health Sciences for the study of "Absorption of Inhaled Sub-Micron Trace Metals."

Wilkie A. Wilson, adjunct assistant professor in the Department of Pharmacology, received a \$25,582 grant from the National Institute of Neurological and Communicative Disorders and Stroke for "Control of Neuronal Firing by Adaption."

* * *

Robert H. Harris, assistant professor in the division of nephrology, received a continuation of his Established Investigatorship grant from the American Heart Association. Harris' grant is titled "Urinary Factors Influencing Renal Function and Growth."

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David J. Robertson, James B. Duke Professor in the Department of Anatomy, received a \$151,035 grant from the National Institute of General Medical Sciences for biological membrane studies.

* * *

John W. Moore, professor in the Department of Physiology, was awarded an \$82,125 grant from the National Institute of General Medical Sciences for the study of biological systems. Dr. Moore also received a \$66,662 grant from the National Institute of Neurological and Communicative Disorders and Stroke for "Computer Methods for Physiological Problems."

* * *

James F. Gifford, Jr., associate professor of community and family medicine, has been awarded \$78,350 by the Duke Endowment for projects relating to the history of health care in North Carolina.

* * *

Raymond E. Ideker, assistant professor in the Department of Pathology, received a \$39,329 grant from the National Heart, Lung, and Blood Institute for a "Computerized Study of Arrhythmias Due to Ischemia."

* * *

Patrick A. McKee, professor in the division of general medicine, was awarded a \$91,588 grant from the National Heart, Lung, and Blood Institute for "Structure-function Studies of Human Factor VIII/VWF."

* * *

Robert A. Rosati, associate professor in the division of cardiology, was awarded an \$807,240 grant from the National Heart, Lung, and Blood Institute for the study of "Ischemic Heart Disease Specialized Center of Research."

* * *

William S. Lynn, Jr., professor in the division of pulmonary medicine, received a \$54,311 grant from the National Institute of Environmental Health Sciences for the study of "Silicate, Pulmonary Secretions and Lung Disease."

* * *

Erdman B. Palmore, professor in the division of community and social psychology, received a \$75,156 grant from the National Institute on Aging to study "Determinants and Consequences of Retirement."

* * *

David W. Schomberg, associate professor of obstetrics, gynecology and physiology, received a \$104,582 grant from the National Institute of Child Health and Human Development. Schomberg is studying "Gonadotropin Receptor Regulation In Vitro and In Vivo."

Allen D. Roses, professor in the division of neurology, was awarded a \$47,066 grant from the National Institute of Neurological and Communicative Disorders and Stroke for the study of "Isolated Membrane Glycoproteins."

Wilkie A. Wilson, assistant medical research professor of medicine, received a \$25,582 research grant from the National Institute of Neurological and Communicative Disorders and Stroke. Wilson is studying "Control of Neuronal Firing by Adaptation."

* * *

Elmer Rauckman, assistant medical research professor of surgery and pharmacology, and Gerald Rosen, associate professor of pharmacology, have received a \$90,955 contract from the Army Research Office for a study of "Lipid Autoxidation: Development and Application of Spin Trapping Techniques to Mechanistic Studies."

* * *

James R. Urbaniak, professor of surgery, received a \$110,974 grant from the National Institute of General Medical Sciences. Urbaniak is studying "Tissue Injury, Revascularization and Transplantation."

* * *

F. Stephen Vogel, professor of pathology, was awarded a \$65,681 national research service award from the National Institute of Aging. Vogel will apply the money toward study of biological approaches to dementia.

* * *

Alan D. Magid, research associate of anesthesiology, received a \$72,796 grant from the National Institute of Arthritis, Metabolism and Digestive Diseases. Magid will use the money to support research of "Third Filament of Striated Muscle."

* * *

Michael S. Hershfield, assistant professor of physiology, received a \$38,362 grant from the National Institute of Arthritis, Metabolism and Digestive Diseases. Hershfield is studying "A Lymphoblast Model for Disease of Purine Metabolism."

* * *

Sheldon R. Pinnell, professor in the division of dermatology, was awarded a \$89,597 research grant from the National Institute of Arthritis, Metabolism and Digestive Diseases to study "Collagen Biosynthesis in Human Skin Fibroblasts."

* * *

James L. Parmentier, assistant medical research professor in anesthesiology, received a \$74,118 grant from the National Institute of General Medical Sciences to study "Mode of Action of Volatile Anesthetics."

Frederick H. Schachat, assistant professor of anatomy, received a \$38,103 research grant from the National Institute of Neurological and Communicative Disorders and Stroke. Schachat is studying the molecular biology of muscle.

* * *

J. Victor Nadler, assistant professor in the Department of Pharmacology, received a \$47,993 grant from the National Institute of Neurological and Communicative Disorders and Stroke. Nadler is studying "Excitatory Amino Acid Transmitters in CNS."

* * *

Daniel L. Clarke-Pearson, assistant professor in the Department of Obstetrics and Gynecology, was awarded a Junior Faculty Clinical Fellowship by the American Cancer Society.

* * *

Dr. Elmer Rauckman, assistant medical research professor of surgery and pharmacology, has been invited to present a paper on "Free Radical Aspects of Cocaine Metabolism and Toxicity: at the Fifth International Symposium on Microsomes and Drug Oxidation in Tokyo this July.

News Notes from the—

**BOWMAN GRAY SCHOOL
OF MEDICINE
WAKE FOREST UNIVERSITY**


Dr. Stanley P. Bohrer, professor of radiology, and Dr. H. Bradley Wells, professor of biostatistics, have been appointed to the faculty of the Bowman Gray School of Medicine.

They are among seven new members of the medical school's fulltime faculty. Six people have been appointed to the part-time faculty.

Dr. Bohrer served for 10 years as professor and head of the Department of Radiology at the University of Ibadan, Nigeria. More recently, he was program director for Project Hope in Colombia, South America and in Quezaltenango, Guatemala.

His research interests include bone aging and the diseases found in developing countries.

Dr. Wells, a professor emeritus of biostatistics at the University of North Carolina School of Public Health, will work with Bowman Gray's Department of



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Family and Community Medicine and will serve as senior biostatistician in the Cancer Research Center.

He has served as chief statistician for the Georgia Department of Health and was assigned as the Ford Foundation resident advisor to the Registrar General of India from 1964-66.

His particular interests are with population and demographic studies and in the design and analysis of clinical trials.

Others appointed to the fulltime faculty are Dr. Charles J. Kovacs and Dr. Charles W. Scarantino, associate professors of radiology; Dr. Ernest H. Kawamoto, assistant professor of pathology; Kenneth R. Blanton, instructor in allied health (physician assistant program); and Dr. Jose Biller, instructor in neurology.

Appointed to the part-time faculty are Dr. Martin G. Begley, clinical instructor in radiology; Gale L. Harkness and Martha Ann Kilby, clinical instructors in allied health (physician assistant program); Dr. William B. Jones II, clinical instructor in surgery (emergency medicine); Dr. Robert E. Klein, clinical associate professor of pathology; and Dr. Robert M. Ross, clinical instructor in pediatrics.

* * *

Dr. Ward A. Riley's research might seem just a bit exotic to some as he goes about using light to see sound which humans cannot hear.

But Riley, a research assistant professor of neurology at Bowman Gray, does have a practical purpose behind his light-sees-sound research. He expects that the work will lead to the development of a practical instrument to aid in assuring the quality of high frequency sound (ultrasound) used in diagnosing and treating disease.

His work is supported by a three-year, \$200,000 grant from the National Institute of General Medical Sciences.

What Riley is developing is an instrument which will provide a better measurement of the intensity of an ultrasound beam as well as a means of getting a picture of the ultrasound pattern. Riley considers current methods of evaluating an ultrasound beam as being not very accurate and as being capable of disturbing the sound-wave pattern which they are supposed to measure.

For Riley, light is the ideal way of visualizing a sound pattern because it does not disturb the pattern. He uses a laser in his research.

His intent ultimately is to have the technology for testing an ultrasound beam in a small and light-weight form for use throughout a hospital.

* * *

Dr. Kenneth A. Gruber, research assistant professor of medicine at Bowman Gray, has been awarded an American Society of Nephrology Travel Award.

The \$1,000 award is intended to permit Gruber to attend the 8th International Congress of Nephrology in Athens, Greece.

During the meeting, Gruber will present a scientific paper describing Bowman Gray research which has resulted in the discovery of a hormone, endoxin, now thought to be related to the most common form of high blood pressure.

* * *

Dr. James F. Martin, professor of medical sonics at Bowman Gray, is the 81st president of the American Roentgen Ray Society (ARRS).

He was installed at the society's annual meeting in San Francisco. He succeeds Dr. Joseph D. Calhoun of Little Rock, Ark.

Dr. William M. McKinney, professor of neurology at Bowman Gray, was the Caldwell Lecturer at the ARRS meeting. He spoke on "Neurosonology."

The Caldwell Lectureship, which also includes the presentation of the Caldwell Medal, was established in 1920 by the ARRS in memory of Dr. Eugene Wilson Caldwell, who is considered the father of American roentgenology.

The ARRS is the oldest radiological organization in the western hemisphere. It has a worldwide membership of 1,500 radiologists, other physicians and scientists.

Martin served as secretary of the ARRS for several years before being elected president-elect last year. His presidential address was entitled, "The Radiology Shop."

* * *

Harriett Faulkner, director of the Office of Minority Affairs at Bowman Gray, has been re-elected treasurer and has received an award of recognition of her services during the fifth annual meeting of the Southern Region of the National Association of Medical Minority Educators.

* * *

Dr. Frank R. Johnston, professor of surgery (cardiothoracic), has been elected first vice president of the Southeastern Surgical Congress at the organization's annual meeting in New Orleans.

* * *

Dr. George Podgorny, clinical associate professor of surgery (emergency medicine), has been elected to the executive committee of the Board of Directors of the Emergency Medicine Foundation of Dallas, Tex.

* * *

Dr. Earl Schwartz, assistant professor of surgery (emergency medicine), has been appointed an oral examiner for the American Board of Emergency Medicine.

AMERICAN ACADEMY OF FAMILY PHYSICIANS

Fifty-four North Carolina family physicians have become diplomates of the American Board of Family Practice by passing the 11th certification examination

given last July. They are Drs. Thomas T. Atkinson, William Glenn Aycock, Broadus Monroe Beeson, Mark Wilson Bennett, William C. Blackerby, George Wallace Brown, Harry Mario Coletta II, James M. Currin Jr., Allen Joe Daugird, George R. Everhart III, Robert H. Fabrey II, Joseph C. Fesperman Jr., Charles S. Finch, Ronald P. Fisher, Jerome Edward Groll, Kirk D. Gulden, Sanford D. Guttler, Jan Theodore Hahn, James H. Hampton, Clark B. Hanmer, Alfred R. Hansen, James Benford Hardin, Robert E. Harrell Jr., Jeffrey D. Harris, Douglas E. Henley, David Mark Hicklin, James Beatty Holt, David H. Hopper, Danny Edward Huntley, Pamela Kay H. Jes-sup, Eric Merriman Johnsen, Michael S. Kaplan, Albert Keith Kuhne, Robert Scott Lawrence, Gray Ira Levine, Mary Elizabeth Lyon, Jane McCaleb, Terry R. McGuinn, Lynn Carlsen Parker, Jesse Calvin Pittard, Ronald L. Plemmons, John Ross Purvis, Robert Leon Rhyne, John G. Roach III, Jessica Lee Schorr,

Richard K. Serra, John Braswell Smith Jr., David N. Spees, Alan Robert Storeygard, Michael R. Sunderman, John B. R. Thomas, John C. Vick, Matthew Bruce Vukoson, and Steven F. Wiegand.

AMERICAN COLLEGE OF CARDIOLOGY

Dr. C. Glenn Sawyer of Winston-Salem is among 19 prominent cardiovascular specialists elected to three-year terms on the board of governors of the 11,000-member American College of Cardiology, the national medical specialty society which represents cardiologists and cardiac surgeons. Each of the specialists will provide liaison between the membership in the geographic area in which he resides and the national organization based in Bethesda, Md. Sawyer will represent the state of North Carolina.

Nephrotic Syndrome

The dropsy diffused through the cellular membrane, and in its progress usually involving the large cavities likewise, is a very common form of the disease. Its exciting causes are sometimes sufficiently remarkable, and where they can be readily ascertained, constitute a natural and useful distinction, of which I have availed myself in arranging the cases contained in this chapter.

One of these causes is scarlatina, which operates to a great extent in certain seasons; another is courses of mercury imprudently conducted, and perhaps aided by cold; a third the drinking of cold water, when heated; and I have reserved a fourth section for those cases, in which the exciting cause was not very obvious nor precise, but appeared connected with different circumstances of fatigue, cold, the use of strong liquors, visceral disease, or the injudicious employment of tonics.

In the histories themselves the general character of the urine is given, and the extent of its coagulation by heat. The occasional experiments, which I have tried with other chemical tests, are to prevent the necessity of repetition, placed together. I lament, undoubtedly, that they are so few and so limited, because the discharge of albumen by this unusual channel might probably be much illustrated, by ascertaining whether any saline matters were present, that particularly favored its solution. The complicated nature of that fluid, at all times, but especially in disease, seems to surround the subject with difficulties. — John Blackall, 1818.

In Memoriam

JOHN C. REECE, M.D.

Dr. John C. Reece of Morganton, a member of the Broughton Hospital medical staff, died Jan. 11 of heart disease.

Dr. Reece led in the development and operation of clinical laboratory services at Broughton and by his example and counsel provided encouragement and inspiration for countless other physicians, nurses, technicians, patients and others in human services. He also provided leadership in Red Cross work and blood banking in the Morganton area.

Dr. Reece had been president of the North Carolina Medical Society and a pioneer medical examiner. His death causes a sense of loss and sorrow and an appreciation of the high quality of the fellowship and professional services he provided.

Broughton Hospital, Morganton, N.C.

MARION BUTLER PATE, JR., M.D.

Dr. Marion B. Pate, Jr., of Lumberton died Feb. 23 after a long illness.

Dr. Pate was born in Cumberland County on Oct. 12, 1922, the son of the late Marion and Ruth Townsend Pate. He graduated from Wake Forest University with a B.S. degree and from the Bowman Gray School of Medicine with an M.D. degree in 1945. He interned at Roper Hospital, Charleston, S.C., and the North Carolina Baptist Hospital in Winston-Salem. He was on active duty with the Air Force from 1946 to 1948 and remained in the active reserves, retiring with the rank of lieutenant colonel in 1972.

Dr. Pate practiced family medicine for 26 years in St. Pauls, N.C., and in Lumberton, and was the Robeson County health director from 1969 to 1974.

He was a Diplomate of the American Board of Family Practice and a Fellow of the American Academy of Family Practice. He was a member of the Robeson County Medical Society and the AMA, and was a charter member of the North Carolina Academy of Family Practice and was on the active staff of the Southeastern General Hospital in Lumberton. He had been president of the Robeson County Medical Society, mayor and a member of the town board of St. Pauls, a member of the board of education of the St. Pauls city schools and a trustee of the N.C. Cancer Institute at Lumberton. He was a member of the First Presbyterian Church of Lumberton.

He is survived by his wife, the former Thelma Faye Ray of Fayetteville, and two sons: Marion Butler Pate, III, a senior at the Bowman Gray School of Medicine, and Raymond G. Pate, a senior engineering student at N.C. State University. Other survivors include a sister, Mrs. Edna Neil Bishop of Fayetteville, and two brothers, Cary Pate of Fayetteville, and Lloyd Pate, M.D., of Fairmont.

Dr. Pate was dedicated and devoted to his profession and gave long and faithful service to the citizens of Robeson County. He loved his patients and gave unselfishly of his time and energy to their welfare. His patients honored and respected him as a physician and his fellow physicians deeply mourn his passing. He will be greatly missed by his profession and the people of Robeson County.

Robeson County Medical Society

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MEDICAL DIRECTOR — Cumberland County Hospital System is seeking a physician to serve as Medical Director for its three facilities which include a 480 bed acute care hospital, a 98 bed acute care hospital and a 60 bed rehabilitation center. The individual must have broad experience in medical practice, teaching and/or administration with superior management capabilities. Responsibilities include maintenance of highest quality of medical care, evaluation of the performance and appointment of staff physicians, and review of budget requests for medical clinical services, medical education and research activities. Submit resume to: Dr. Assad Meymandi, Search Committee Chairman, Cumberland County Hospital System, Inc., P.O. Box 2000, Fayetteville, N.C. 28302.

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Index to Advertisers

| | |
|---------------------------------------|--------------------|
| Air Force | 424 |
| Alpha Therapeutics Corp. | 429 |
| American Red Cross | 396 |
| Boots Pharmaceuticals, Inc. | 415, 416, 417, 418 |
| Bristol Laboratories | 378, 379 |
| Burroughs Wellcome Company | 400 |
| Charlotte Chest Laboratory | 435 |
| Charlotte Treatment Center | 442 |
| Children's Home Society of N.C. | 411 |
| Crompton, J. L. & J. Slade, Inc. | 391 |
| Golden-Brabham Insurance Agency | 382 |
| Graphic Cardiology | 392 |
| Holly Hill Hospital | 422 |
| Janssen Pharmaceutica | 389 |
| Lilly, Eli & Company | 381 |
| Mandala Center | 388 |

| | |
|--|--|
| Mead Johnson & Company | 393 |
| Medical Mutual Insurance Company | 394 |
| Merrell Dow Pharmaceuticals, Inc. | 398, 399, 432, 433, 434 |
| Mutual of Omaha | 412 |
| Ortega Pharmaceutical Company | 420 |
| Plyler Financial Services | 431 |
| Purepac Pharmaceutical Co. | 387 |
| Ramada Inn Downtown | 380 |
| Roche Laboratories | Cover 2, 375, 376, 396, 397, Cover 3, Cover 4 |
| Sequoia Group, Inc. | 395 |
| Willingway, Inc. | 437 |
| Winchester Surgical Supply Company, Winchester-Ritch Surgical Company | 377 |
| Wyeth Laboratories | 383, 384, 426, 427 |

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Background Information Sheet

- NC PSROs Temporarily
Escape Budget Ax Facing 467
N.C. Medical Society Staff

Original Articles

- The Protective Properties of
Dietary Fiber 467
Denis P. Burkitt, M.D.
- High Risk Indicators of Fetal
and Neonatal Mortality in
Durham County, N.C. 472
Craig D. Turnbull, M.P.H., Ph.D.,
John D. Fletcher, M.D., M.P.H.,
and Anne B. Klein, A.B.
- Hereditary Deficiency of
Thyroxine-Binding Globulin 475
William D. Wilson, Jr., M.D., and
Robert P. Schwartz, M.D.

Basic Science Review

- Hymenoptera Venom Allergy—
From the Immunology Research
Laboratory to Clinical Practice .. 477
Donald R. Hoffman, Ph.D.

Special Articles

- Message of the President to the
House of Delegates 481
M. Frank Sohmer, Jr., M.D.
- Annual Address of the President .. 483
M. Frank Sohmer, Jr., M.D.
- Attachment of a Physician's
Assistant to An English General
Practice 485
B.L.E.C. Reedy, M.B.,
M.R.C.G.P.,
T. I. Stewart, M.D., F.R.C.G.P.,
and J. B. Quick, PA-C

Mini-Feature

- Toxic Encounters of the
Dangerous Kind — Are Your
Patients Speeding? .
Ronald B. Mack, M

Editorials

- Suggestions for Authors 490
Why Physician's Assistants? 493
Practice Management 494

Correspondence

- Pharmacy and Medicine 496
William W. Fore, M.D., and
Stephen W. Shearer, M.S.

Bulletin Board

- New Members of the State Society 498
What? When? Where? 499
News Notes from the Duke
University Medical Center 500
News Notes from the Bowman Gray
School of Medicine of Wake
Forest University 504
News Notes from the East Carolina
University School of Medicine .. 506
News Notes from the University of
North Carolina-Chapel Hill
School of Medicine and North
Carolina Memorial Hospital 511
American College of Physicians ... 515
Federation of State Medical Boards 515
In Memoriam 516
Classified Ads 517
Index to Advertisers 518

1981 Committee Conclave: Sept. 23-27,
Southern Pines

1982 Conference for Medical Leadership:
February 5-6, Winston-Salem

1982 Annual Sessions: May 6-9,

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Facts

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The effectiveness of Valium (diazepam/Roche) in long-term use, that is, more than 4 months, has not been assessed by systematic clinical studies. The physician should periodically reassess the usefulness of the drug for the individual patient

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Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication, abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms similar to those with barbiturates and alcohol have been observed with abrupt discontinuation, usually limited to extended use and excessive doses. Infrequently, milder withdrawal symptoms have been reported following abrupt discontinuation of benzodiazepines after continuous use, generally at higher therapeutic levels, for at least several months. After extended therapy, gradually taper dosage. Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence.

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Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported, should these occur, discontinue drug. Isolated reports of neutropenia, jaundice, periodic blood counts and liver function tests advisable during long-term therapy.

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Mid Pines Club
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ANNUAL MEETING
May 6-9, 1982

Pinehurst Hotel
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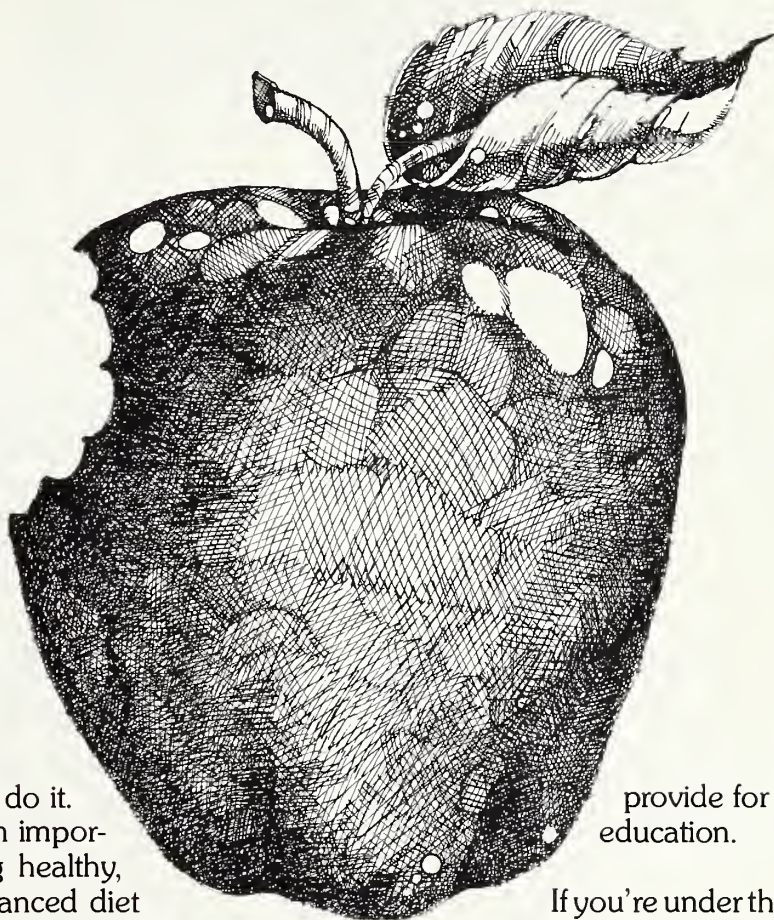
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EQUAGESIC—Abbreviated Summary

INDICATIONS: Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the indications as follows:

Possibly effective for the treatment of pain accompanied by tension and/or anxiety in patients with musculoskeletal disease or tension headache.

Final classification of the less-than-effective indications requires further investigation.

The effectiveness of Equagesic in long-term use, i.e. more than four months, has not been assessed by systematic clinical studies. The physician should periodically reassess usefulness of the drug for the individual patient.

CONTRAINDICATIONS:

Equagesic should not be given to individuals with a history of sensitivity or severe intolerance to aspirin, meprobamate, or ethoheptazine citrate.

WARNINGS: Careful supervision of dose and amounts prescribed for patients is advised, especially with those patients

known propensity for taking excessive quantities of drugs. Excessive and prolonged use in susceptible persons, e.g., alcoholics, former addicts, and other severe psychoneurotics, has been reported to result in dependence on or habituation to the drug. Where excessive dosage has continued weeks or months, dosage should be reduced gradually rather than abruptly stopped, since withdrawal of a "crutch" may precipitate withdrawal reaction of greater proportions than that for which the drug was originally prescribed. Abrupt continuation of doses in excess of the recommended dose has resulted in some cases in the occurrence of epileptiform seizures.

Special care should be taken to warn patients taking meprobamate that tolerance to alcohol may be lowered with resulting slowing of reaction time and impairment of judgment and coordination.

USE IN PREGNANCY AND LACTATION: An increased risk of congenital malformations associated with the use

of minor tranquilizers (meprobamate, chloridiazepoxide, and diazepam) during the first trimester of pregnancy has been suggested in several studies. Because use of these drugs is rarely a matter of urgency, their use during this period should almost always be avoided. The possibility that a woman of child-bearing potential may be pregnant at the time of institution of therapy should be considered. Patients should be advised that if they become pregnant during therapy or intend to become pregnant they should communicate with their physicians about the desirability of discontinuing the drug. Meprobamate passes the placental barrier. It is present both in umbilical-cord blood at or near maternal plasma levels and in breast milk of lactating mothers at concentrations two to four times that of maternal plasma. When use of meprobamate is contemplated in breast-feeding patients, the drug's higher concentration in breast milk as compared to maternal plasma levels should be considered.

Preparations containing aspirin should be kept out of the reach of children. Equagesic is not recommended for patients 12 years of age and under.

PRECAUTIONS: Should drowsiness, ataxia, or visual disturbance occur, the dose should be reduced. If symptoms continue, patients should not operate a motor vehicle or any dangerous machinery. Suicidal attempts with meprobamate have resulted in coma, shock, vasomotor and respiratory collapse, and anuria. Very few suicidal attempts were fatal, although some patients ingested very large amounts of the drug (20 to 40 gm). These doses are much greater than recommended. The drug should be given cautiously, and in small amounts, to patients who have suicidal tendencies. In cases where excessive doses have been taken, sleep ensues rapidly and blood pressure, pulse, and respiratory rates are reduced to basal levels. Hyperventilation has been reported occasionally. Any drug remaining in the stomach should be removed and symptomatic treatment given. Should respiration become very shallow and slow CNS stimulants, e.g., caffeine, Metrazol, or amphet-

amine, may be cautiously administered. If severe hypotension develops, pressor amines should be used parenterally to restore blood pressure to normal levels.

ADVERSE REACTIONS: A small percentage of patients may experience nausea with or without vomiting and epigastric distress. Dizziness occurs rarely when meprobamate and ethoheptazine citrate with aspirin is administered in recommended dosage. The meprobamate may cause drowsiness but, as a rule, this disappears as therapy is continued. Should drowsiness persist and be associated with ataxia, this symptom can usually be controlled by decreasing the dose, but occasionally it may be desirable to administer central stimulants such as amphetamine or mephentermine sulfate concomitantly to control drowsiness.

A clearly related side effect to the administration of meprobamate is the rare occurrence of allergic or idiosyncratic reactions. This response develops, as a rule, in patients who have had only 1-4 doses of meprobamate and have not had a previous contact with the drug. Previous history of allergy may or may not be related to the incidence of reactions.

Mild reactions are characterized by an itchy urticarial or erythematous, maculopapular rash which may be generalized or confined to the groin. Acute nonthrombocytopenic purpura with cutaneous petechiae, ecchymoses, peripheral edema, and fever have also been reported.

More severe cases, observed only very rarely, may also have other allergic responses, including fever, fainting spells, angioneurotic edema, bronchial spasms, hypotensive crises (1 fatal case), anaphylaxis, stomatitis and proctitis (1 case), and hyperthermia. Treatment should be symptomatic such as administration of epinephrine, antihistamine, and possibly hydrocortisone. Meprobamate should be stopped, and re-institution of therapy should not be attempted.

Rare cases have been reported where patients receiving meprobamate suffered from aplastic anemia (1 fatal case), thrombocytopenic purpura, agranulocytosis, and hemolytic anemia. In nearly every instance reported, other toxic agents known to have caused these conditions have been associated with meprobamate. A few cases of leukopenia during

continuous administration of meprobamate are reported, most of these returned to normal without discontinuation of the drug.

Impairment of accommodation and visual acuity has been reported rarely.

OVERDOSE: Two instances of accidental or intentional significant overdosage with ethoheptazine citrate combined with aspirin have been reported. These were accompanied by symptoms of CNS depression, including drowsiness and light-headedness, with uneventful recovery. However, on the basis of pharmacological data, it may be anticipated that CNS stimulation could occur. Other anticipated symptoms would include nausea and vomiting. Appropriate therapy of signs and symptoms as they appear is the only recommendation possible at this time. Overdosage with ethoheptazine combined with aspirin would probably produce the usual symptoms and signs of salicylate intoxication. Observation and treatment should include induced vomiting or gastric lavage, specific parenteral electrolyte therapy for ketoadicidosis and dehydration, watching for evidence of hemorrhagic manifestations due to hypoprothrombinemia which, if it occurs, usually requires whole-blood transfusions.

DESCRIPTION: Each Equagesic tablet contains 150 mg meprobamate, 75 mg ethoheptazine citrate and 250 mg aspirin.

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*This drug has been evaluated as possibly effective for this indication

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WYGESIC—Abbreviated Summary

INDICATION: For the relief of mild-to-moderate pain.

CONTRAINDICATION: Hypersensitivity to propoxyphene or to acetaminophen.

WARNINGS: CNS ADDITIVE EFFECTS AND OVERDOSE: Propoxyphene in combination with alcohol, tranquilizers, sedative-hypnotics, or other CNS depressants has an additive depressant effect. Patients taking this drug should be advised of the additive effect and warned not to exceed the dosage recommended. Toxic effects and fatalities have occurred following overdoses of propoxyphene alone or in combination with other CNS depressants. Most of these patients had histories of emotional disturbances or suicidal ideation or attempts, as well as misuse of tranquilizers, alcohol, or other CNS-active drugs. Caution should be exercised in prescribing large amounts of propoxyphene for such patients (see Management of Overdosage).

DRUG DEPENDENCE: Propoxyphene can produce drug dependence characterized by psychic dependence and less frequently, physical dependence and tolerance. It will only partially suppress the withdrawal syndrome in individuals physically dependent on morphine or other narcotics. The abuse liability of propoxyphene is qualitatively similar to codeine's although quantitatively less, and propoxyphene should be prescribed with the same degree of caution appropriate to the use of codeine.

USAGE IN AMBULATORY PATIENTS: Propoxyphene may impair the mental and/or physical abilities required for potentially hazardous tasks, e.g. driving a car or operating machinery. Patients should be cautioned accordingly.

USAGE IN PREGNANCY: Safe use in pregnancy has not been established relative to possible adverse effects on fetal development. INSTANCES OF WITHDRAWAL SYMPTOMS IN THE NEONATE HAVE BEEN REPORTED FOLLOWING USAGE DURING PREGNANCY. Therefore propoxyphene should not be used in pregnant women unless, in the

judgement of the physician, the potential benefits outweigh the possible hazards.

USAGE IN CHILDREN: Propoxyphene is not recommended for children because documented clinical experience has been insufficient to establish safety and a suitable dosage regimen in the pediatric group.

PRECAUTIONS: Confusion, anxiety, and tremors have been reported in a few patients receiving propoxyphene concomitantly with orphenadrine. The CNS depressant effect of propoxyphene may be additive with other CNS depressants, including alcohol.

ADVERSE REACTIONS: The most frequent adverse reactions are dizziness, sedation, nausea, and vomiting. These seem more prominent in ambulatory than in nonambulatory patients. Some of these reactions may be alleviated if the patient lies down. Other adverse reactions include constipation, abdominal pain, skin rashes, light-headedness, headache, weakness, euphoria, dysphoria, and minor visual disturbances. The chronic ingestion of propoxyphene in doses over 800 mg per day has caused toxic psychoses and convulsions. Cases of liver dysfunction have been reported.

DRUG INTERACTIONS: Propoxyphene in combination with alcohol, tranquilizers, sedative-hypnotics, and other CNS depressants has an additive depressant effect. Patients taking this drug should be advised of the additive effect and warned not to exceed the dosage recommended. (see Warnings) Confusion, anxiety, and tremors have been reported in a few patients receiving propoxyphene concomitantly with orphenadrine.

MANAGEMENT OF OVERDOSAGE: SYMPTOMS: The manifestations of serious overdosage with propoxyphene are similar to those of narcotic overdosage and include respiratory depression (a decrease in respiratory rate and/or tidal volume, Cheyne-Stokes respiration, cyanosis), extreme somnolence progressing to stupor or coma, pupillary constriction, and circulatory collapse. In addition to these characteristics, which are reversed by narcotic antago-

nists such as naloxone, there may be other effects. Overdoses of propoxyphene can cause delay of cardiac conduction as well as local or generalized convulsions, a prominent feature in most cases of severe poisoning. Cardiac arrhythmias and pulmonary edema have occasionally been reported, and apnea, cardiac arrest, and death have occurred.

Symptoms of massive overdosage with acetaminophen may include nausea, vomiting, anorexia, and abdominal pain, beginning shortly after ingestion and lasting for 12 to 24 hours. However, early recognition may be difficult since early symptoms may be mild and nonspecific. Evidence of liver damage is usually delayed. After the initial symptoms, the patient may feel less ill; however, laboratory determinations are likely to show a rapid rise in liver enzymes and bilirubin. In case of serious hepatotoxicity, jaundice, coagulation defects, hypoglycemia, encephalopathy, coma, and death may follow. Renal failure due to tubular necrosis, and myocardiopathy, have also been reported.

Ingestion of 10 grams or more of acetaminophen may produce hepatotoxicity. A 13-gram dose has reportedly been fatal.

TREATMENT: Primary attention should be given to the reestablishment of adequate respiratory exchange through provision of a patent airway and institution of assisted or controlled ventilation. The narcotic antagonists naloxone, nalorphine, and levallorphan, are specific antidotes against the respiratory depression produced by propoxyphene. An appropriate dose of one of these antagonists should be administered preferably I.V., simultaneously with efforts at respiratory resuscitation and the antagonist should be repeated as necessary until the patient's condition remains satisfactory. In addition to a narcotic antagonist, the patient may require careful titration with an anticonvulsant to control seizures. Analeptic drugs (e.g. caffeine or amphetamine) should not be used because of their tendency to precipitate convulsions.

Oxygen, IV fluids, vasopressors and other supportive measures should be used as indicated. Gastric lavage may be helpful. Activated charcoal can adsorb a significant amount of ingested propoxyphene. Dialysis is of little value in poisoning by propoxyphene alone. Acetaminophen is rapidly absorbed and efforts to remove the drug from the body should not be delayed. Copious gastric lavage and/or induction of emesis may be indicated. Activated charcoal is probably ineffective unless administered immediately after acetaminophen ingestion. Neither forced diuresis nor hemodialysis appears to be effective in removing acetaminophen. Since acetaminophen in overdose may have an antidiuretic effect and may produce renal damage, administration of fluids should be carefully monitored to avoid overload. It has been reported that mercaptamine (cysteine) or other thiol compounds may protect against liver damage if given soon after overdosage (8-10 hours). N-acetylcysteine is under investigation as a less toxic alternative to mercaptamine, which may cause anorexia, nausea, vomiting, and drowsiness. Appropriate literature should be consulted for further information (JAMA 237 2406-2407, 1977).

Clinical and laboratory evidence of hepatotoxicity may be delayed up to one week. Acetaminophen plasma levels and half-life may be useful in assessing the likelihood of hepatotoxicity. Serial hepatic enzyme determinations are also recommended.

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ESTABLISHING MEDICAL ETHICS FOR A CHANGING PROFESSION

AT THE AMERICAN MEDICAL ASSOCIATION
WE'RE INVOLVED IN MEETING
THE IMPORTANT CHALLENGES AND
RESPONSIBILITIES OF THE 80'S
This is another in a series of reports on
major issues facing the medical profession. The purpose is to
inform physicians and medical students on what the AMA is
doing, on behalf of the profession and the public, to influence
decisions that will affect health care in the next decade and beyond.

As a physician or medical student, you automatically have a strong vested interest in medical ethics. Ethics are a traditional frame of reference for society's attitude toward physicians. Today in America, there is more reference to that frame than ever before.

That's because so many of today's health-care issues are ethical challenges. As outstanding examples, consider the moral right and wrong involved in:

- Seemingly excessive or needless costs of medical services—at a time when cost is the chief health-care issue and the chief basis for government intervention in care.
- Medicine's enhanced ability and obligation to prolong the lives of the terminally ill—versus pressures for mercy killing and for limits on the expenditure of health-care resources.
- Rules and procedures that could make medical records more accessible to outsiders. The moral conflict here is between the principles of confidentiality and the stake of third parties (notably government) in medical oversight and review.
- The question as to where various biomedical advances, such as genetic engineering and test-tube fertilization will lead us?

Those and similar questions involve the very character of

medical practice, including your own. Ethically wrong answers could distort that character.

Physicians have to do their best to provide answers that are both high-minded and sure-footed. Acting in concert, we have to come forth with sound ethical principles and applications.

The AMA has stood for traditional moral values from its very beginnings but has been flexible enough to keep adapting to new needs. In order to adapt, the AMA (by vote of its House of Delegates) revised its Principles of Medical Ethics last July—the fifth time it has done so.

Here are some of the ways in which the AMA has been applying medical ethics to relevant current issues . . . on your behalf:

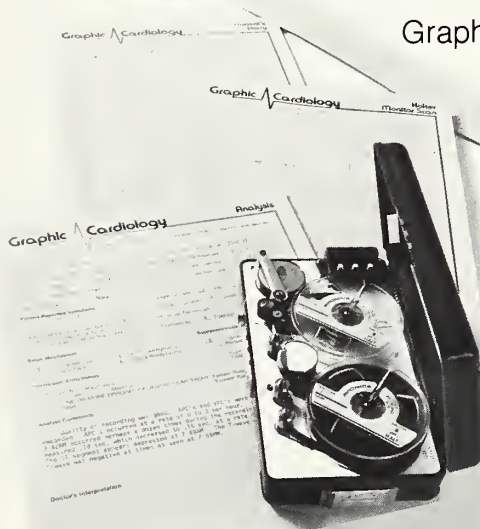
- Stimulation of ways to cut down on needless or excessive health services and costs. This includes peer and utilization review, physician participation in PSROs, cost-benefit analysis, and alternatives to hospitalization whenever feasible.
- Model state legislation for disciplining the wayward or incompetent physician, who can be an economic as well as a medical problem. Twenty-three states now have laws that wholly or partially resemble the AMA model.
- New ethical standards on such topics as genetic engineering, test-tube fertilization, and euthanasia . . . as set forth in the latest edition of the AMA Judicial Council Opinions and Reports.
- Tireless legislative and legal efforts to protect the confidentiality of patient records.
- To maximize our effectiveness, we need YOUR MEMBERSHIP. The larger our membership (230,000 now), the bigger our influence. We need influence in coordinating the ethical commitment of American medicine . . . and in clarifying that commitment to government, to society, and throughout our profession.

We need YOU . . . if we're to give you all the help that you need.

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DESCRIPTION: Each tablet contains aspirin (acetylsalicylic acid) 325 mg plus codeine phosphate in one of the following strengths: No. 2 — 15 mg, No. 3 — 30 mg, and No. 4 — 60 mg. (Warning — may be habit-forming) 

CONTRAINDICATIONS: Hypersensitivity to aspirin or codeine.

WARNINGS:

Drug dependence: Empirin with Codeine can produce drug dependence of the morphine type and, therefore, has the potential for being abused. Psychic dependence, physical dependence, and tolerance may develop upon repeated administration of this drug and it should be prescribed and administered with the same degree of caution appropriate to the use of other oral, narcotic-containing medications. Like other narcotic-containing medications, the drug is subject to the Federal Controlled Substances Act.

Use in ambulatory patients: Empirin with Codeine may impair the mental and/or physical abilities required for the performance of potentially hazardous tasks such as driving a car or operating machinery. The patient using this drug should be cautioned accordingly.

Interaction with other central nervous system (CNS) depressants: Patients receiving other narcotic analgesics, general anesthetics, phenothiazines, other tranquilizers, sedative-hypnotics, or other CNS depressants (including alcohol) concomitantly with Empirin with Codeine may exhibit an additive CNS depression. When such combined therapy is contemplated, the dose of one or both agents should be reduced.

Use in pregnancy: Safe use in pregnancy has not been established relative to possible adverse effects on fetal development. Therefore, Empirin with Codeine should not be used in pregnant women unless, in the judgment of the physician, the potential benefits outweigh the possible hazards.

PRECAUTIONS:

Head injury and increased intracranial pressure: The respiratory depressant effects of narcotics and their capacity to elevate cerebrospinal fluid pressure may be markedly exaggerated in the presence of head injury, other intracranial lesions or a pre-existing increase in intracranial pressure. Furthermore, narcotics produce adverse reactions which may obscure the clinical course of patients with head injuries.

Acute abdominal conditions: The administration of Empirin with Codeine or other narcotics may obscure the diagnosis or clinical course in patients with acute abdominal conditions.

Allergic: Precautions should be taken in administering salicylates to persons with known allergies; patients with nasal polyps are more likely to be hypersensitive to aspirin.

Special risk patients: Empirin with Codeine should be given with caution to certain patients such as the elderly or debilitated, and those with severe impairment of hepatic or renal function, hypothyroidism, Addison's disease, prostatic hypertrophy or urethral stricture, peptic ulcer, or coagulation disorders.

ADVERSE REACTIONS: The most frequently observed adverse reactions to codeine include light-headedness, dizziness, sedation, nausea and vomiting. These effects seem to be more prominent in ambulatory than in nonambulatory patients and some of these adverse reactions may be alleviated if the patient lies down. Other adverse reactions include euphoria, dysphoria, constipation, and pruritus.

The most frequently observed reactions to aspirin include headache, vertigo, ringing in the ears, mental confusion, drowsiness, sweating, thirst, nausea, and vomiting. Occasional patients experience gastric irritation and bleeding with aspirin. Some patients are unable to take salicylates without developing nausea and vomiting. Hypersensitivity may be manifested by a skin rash or even an anaphylactic reaction. With these exceptions, most of the side effects occur after repeated administration of large doses.

DOSAGE AND ADMINISTRATION: Dosage should be adjusted according to the severity of the pain and the response of the patient. It may occasionally be necessary to exceed the usual dosage recommended below in cases of more severe pain or in those patients who have become tolerant to the analgesic effect of narcotics. Empirin with Codeine is given orally. The usual adult dose for Empirin with Codeine No. 2 and No. 3 is one or two tablets every four hours as required. The usual adult dose for Empirin with Codeine No. 4 is one tablet every four hours as required.

DRUG INTERACTIONS: The CNS depressant effects of Empirin with Codeine may be additive with that of other CNS depressants. See WARNINGS.



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PRESIDENT'S NEWSLETTER

NORTH CAROLINA MEDICAL SOCIETY

NO. 2

JULY 1981

Dear Colleagues:

We returned from Chicago VICTORIOUS. Jim Davis was elected to the office of Vice-Speaker of the American Medical Association. As Vice-Speaker, Jim will sit with the Board of Trustees and, although without vote, may be able to impact policy decisions of the Board in a major way. We wish him every success and are confident that Jim, in his usual manner, will make every effort to be the best Vice-Speaker that the AMA has ever known.

In other actions, the AMA upheld its previous stand in opposition to both PSRO and HSA. In Reports A and B, the Council on Medical Services sets forth guidelines for regional, voluntary health planning. Most physicians agree that we support both voluntary peer review and voluntary health planning which is physician directed.

Representative Wilma Woodard, a steadfast friend of the North Carolina Medical Society and Chairman of the House Committee on Corrections, requested that a North Carolina Medical Society Committee to Investigate Grievances Relative to Medical Care of Prison Residents be appointed. You may remember that a previous study was done in 1975, during the Holshouser administration. The excellent report of this previous committee composed of Dr. Philip Nelson, Rose Pully, and George Debnam brought about some improvements. We were asked that the Committee represent certain specialties throughout the entire state. Past-President Jesse Caldwell, Jr., has agreed to chair this committee which is composed as follows:

Jesse Caldwell, Jr., M.D., Chairman, OB-GYN, Gastonia
John A. Ewing, M.D., Psychiatry, Drug Abuse, Chapel Hill
George C. Debnam, M.D., General Practice, Raleigh
Philip G. Nelson, M.D., Psychiatry, Greenville
Rose Pully, M.D., Family Practice, Kinston
George G. Gilbert, M.D., Urology, Asheville
William B. Wood, M.D., Pulmonary Disease, Chapel Hill
Susan S. Gustke, M.D., Internal Medicine, Raleigh

At a press conference on June 17, Representative Woodard (D, Wake County), announced the two year study. I am so grateful that this fine, conscientious group of physicians has agreed to accept this responsibility, which will require both time and endeavor.

Don Chaplin, Chairman of the Committee on Legislation, has exciting plans for the coming year. Mark your calendar for the weekend of October 30, 31, and November 1--the dates of the Legislative Symposium at Myrtle Beach. It will be a weekend of interest, education and fun. Your personal involvement is extremely important to your future and the future of the North Carolina Medical Society. Please plan to participate! If you don't become involved, don't complain about what bureaucracy is doing to medicine! Deal with it on a one-to-one basis! Try to bring one of your own Legislators. We promise you a good opportunity to learn and to voice your own opinions.

As you are aware, the North Carolina Medical Society and the North Carolina Society of Ophthalmology are vigorously seeking legislative action to repeal the Optometric Drug Use Law. Our ophthalmologists have gathered together many cases of misdiagnoses by optometrists, with serious sequelae, and produced an excellent package of these cases for the Legislators. They have supported their belief that this law must be repealed with their money, minds, and hearts. I was privileged to be with them at the bill's hearing before the Senate Health Committee and was so impressed with their business-like sincerity that I wish each of you could have been with us. Their lobbyist had six of us to meet at the Headquarters for a practice hearing before we marched to the Legislative Building for the actual hearing, which was well received by the Senate Health Committee. Vote in Committee is scheduled for Tuesday, June 23 (after three postponements). I am sure that there is no need to remind our ophthalmological colleagues that we wish them well and recognize that they have fought long and well---not only for themselves---but for all of medicine!

On June 17, 1981, the Committee on Health Planning and Development met at the Headquarters Office. Although a quorum was not present, Chairman Bill Laupus went on with the business at hand because of its urgency. With the apparent gratitude of the American Medical Association, the new Department of Health and Human Services has indicated an early demise for federal health planning and HSA's, as we know them. We are well advised that some form of health planning will be in its place. The House of Delegates of the AMA, by adopting Report A of the Council on Medical Services, has endorsed the concept of voluntary, local health planning. Since our committee was created and charged with the responsibility to monitor HSA's, now its direction, as well as its charge must change. We need your advice and opinions on this matter of grave importance. Please let us hear from you immediately! Both the North Carolina Medical Society and the American Medical Association have endorsed repeal of P.L. 93-641, The Health Planning Act.

Don Chaplin, Joe Russell, John McCain, Charles Hoffman, and I visited with Sarah Morrow (Secretary, Department of Human Resources) on Thursday, June 18, 1981. After an hour of friendly and fruitful discussion of our shared problems, Dr. Morrow and Barbara D. Matula (Director, Division of Medical Assistance) joined us for a similar discussion with Governor James B. Hunt, Jr. We were graciously received by Governor Hunt who seemed quite pleased to visit with us, as representatives of the North Carolina Medical Society. He reminded us of federal cuts in all health delivery budgets and assured us of a seat at decision making tables.

Gloria Graham, Chairman of the Committee on Ethics and Religion, presented an outstanding Ethics Retreat, at Quail Roost, June 12-14. Attended by physicians, ministers, and sociologists, discussion was lively and pertinent. Dr. Thomas Ballentine (Neurosurgeon, Boston) was our "keynote" speaker. Many of us know and love Tom Ballentine who has been a part of the AMA leadership for many years. Tom was so impressed by our Ethics Retreat that he has vowed to duplicate it in Massachusetts. A tip of the hat and heartfelt gratitude to Chairman Graham and Alan Skipper (Executive Assistant, North Carolina Medical Society). Until next time.

My best to you and your family,



Josephine E. Newell, M.D.
President

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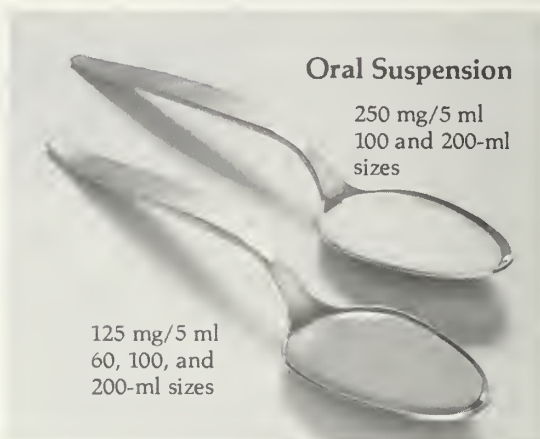
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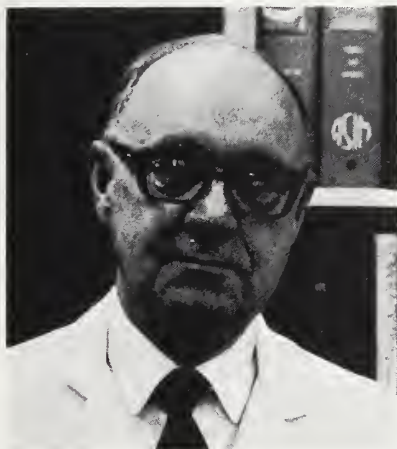
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"THE PHYSICIAN IS A DECISION MAKER, AND ALMOST EVERY DECISION HE MAKES COSTS OR SAVES MONEY."

—Dr. William Felts, Past President,
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*PATIENT CARE Magazine—Outlook 1977, "Face Off: Cost Containment vs. Chaos," January 1, 1977.

Lyle CB, et al. "Practice habits in a group of eight internists," ANNALS OF INTERNAL MEDICINE 84 (May 1976), 594-601.

Schroeder SA, et al. "Use of laboratory tests and pharmaceuticals: variation among physicians and effect of cost audit on subsequent use," JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION 225 (Aug. 20, 1973), 969-73.



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information sheet

A series prepared by the North Carolina Medical Society staff for your benefit. Your comments and suggestions solicited.
—William N. Hilliard, Exec. Director.

NC PSROs

Temporarily Escape Budget Ax

HEALTH CARE FINANCING ADMINISTRATION (HCFA) STAFF HAS RELEASED THE LIST OF PSROs WHICH HAVE BEEN RECOMMENDED FOR TERMINATION FROM THE PROGRAM DUE TO THE SEVERELY REDUCED BUDGET WHICH CONGRESS IS CONSIDERING. WITH THE RESCISSION OF \$28 MILLION FROM THE \$174 MILLION CURRENT PROGRAM FUNDING LEVEL, HCFA HAS DETERMINED THAT APPROXIMATELY 46 PSROs NATIONWIDE WILL NOT HAVE THEIR GRANTS RENEWED AND WILL BE GIVEN 90 DAYS TO CLOSE DOWN.

NONE OF NORTH CAROLINA'S EIGHT PSROs APPEAR ON THE LIST OF 46 SLATED FOR TERMINATION WITHIN THE 90 DAY CLOSE DOWN PERIOD. THIS MEANS THAT UTILIZATION REVIEW BY NORTH CAROLINA PSROs CAN BE EXPECTED TO CONTINUE, AT LEAST TEMPORARILY, UNDER CURRENT FUNDING AUTHORITY UNLESS NEW HCFA DECISIONS HAVE TO BE MADE AS A RESULT OF CONGRESSIONAL ACTION.

IN APRIL, THE OFFICE OF PSRO, REALIZING THAT THE PROGRAM WOULD HAVE TO OPERATE UNDER SIGNIFICANTLY REDUCED BUDGET, ISSUED ITS "PERFORMANCE EVALUATION CRITERIA," USED TO RANK ALL 187 PSROs NATIONWIDE. EVALUATIONS WERE COMPLETED BY HCFA'S REGIONAL OFFICES DURING APRIL AND MAY. THE EVALUATIONS WERE INTENDED TO MEASURE THE IMPACT PSROs HAD ON LOCAL MEDICAL CARE UTILIZATION.

ALL PSROs, INCLUDING THOSE SLATED FOR TERMINATION AND THOSE THAT WILL CONTINUE TO FUNCTION, HAVE JUST RECEIVED THE COMPLETE RANKINGS, SHOWING THEIR RELATIVE POSITION NATIONWIDE.

NORTH CAROLINA'S HIGHEST RANKING PSRO WAS SIXTH AND THE LOWEST ONE-HUNDRED-SIXTH, WITH THE OTHER SIX SPREAD ACROSS THE RANKINGS BETWEEN THOSE TWO EXTREMES.

THE INDIVIDUAL NORTH CAROLINA NATIONAL RANKINGS, ACCORDING TO A DEPARTMENT OF HEALTH & HUMAN SERVICES MEMORANDUM JUST RECEIVED, BY PSRO, WERE AS FOLLOWS:

- 6 - WESTERN NORTH CAROLINA MEDICAL PEER REVIEW FOUNDATION
- 10 - PIEDMONT MEDICAL FOUNDATION
- 14 - CAPITAL AREA PSRO
- 18 - METROLINER MEDICAL PEER REVIEW FOUNDATION
- 22 - MEDIQUAL
- 71 - NORTH CENTRAL MEDICAL PEER REVIEW FOUNDATION
- 84 - CENTRAL PIEDMONT PSRO
- 106 - NORTHEASTERN NORTH CAROLINA PSRO

THE MEMORANDUM FROM EDWARD L. KELLY, ACTING DIRECTOR, HEALTH STANDARDS AND QUALITY BUREAU STATED "THE RE-EVALUATION HAD TWO OBJECTIVES. THE FIRST WAS TO IDENTIFY PSROs THAT DID NOT MEET MINIMUM PROGRAM PERFORMANCE REQUIREMENTS. THE SECOND WAS TO DEVELOP A RANKING OF PSROs BASED ON PERFORMANCE TO BE UTILIZED IN THE EVENT THAT REDUCTIONS IN PROGRAM SUPPORT WERE REQUIRED BY A CONGRESSIONAL BUDGET RESCISSION. WE ARE NOT USING THE NATIONAL RANKING FOR PROGRAM REDUCTION PURPOSES AT THIS TIME BECAUSE WE BELIEVE WE CAN IMPLEMENT THE BUDGET RESCISSION WITHOUT DISCONTINUING FUNDING FOR ANY SATISFACTORILY PERFORMING PSROs."

PSROs WHICH ARE AMONG THE 46 SCHEDULED TO BE PHASED OUT AND WHICH ARE NOW DESIGNATED AS "CONDITIONAL" WILL BE GIVEN AN "INFORMAL HEARING". PSROs ON THE LIST OF 46 WHICH ARE CONSIDERED "FULLY DESIGNATED" WILL BE AFFORDED A FORMAL APPEAL WITH THE DHHS GRANT APPEALS BOARD, AS PRESCRIBED BY FEDERAL REGULATIONS. THESE HEARINGS WILL BEGIN IN MID-JULY.

IN SUMMARY, IT APPEARS THAT THE NORTH CAROLINA PSROs HAVE AT LEAST GAINED A TEMPORARY REPRIEVE FROM THE FEDERAL BUDGET AX WHICH HAS FALLEN ON 46 PSRO UNITS.

The Protective Properties of Dietary Fiber

Denis P. Burkitt, M.D.

INTRODUCTION

A NUMBER of diseases characteristic of Western culture display similar geographical and socio-economic patterns of distribution. One factor immensely related to the frequency of each of these diseases is the fiber content of the diet.

Hypotheses have been postulated to endeavor to explain why dietary fiber may afford protection against each of these diseases.

FACTORS CAUSATIVE OF AND PROTECTIVE AGAINST DISEASE

Nearly all disease results from contact with harmful factors in the environment. This applies to trauma, infection, neoplasia and, as will be emphasized below, to the so-called degenerative diseases.

Not only is the body endowed with built-in protective mechanisms against disease, but deliberate evasive action can be taken against harmful environmental hazards once these are known.

The relationship between causative and protective factors can be likened to a water tank, with in-flow and out-flow pipes. The flow from the former raises and that from the latter lowers the water level. If the in-flow pipe represents causative factors and the out-flow protective factors, the level of the water corresponds to disease risk. Increasing

protection, the out-flow, is tantamount to reducing cause, the in-flow, and vice versa.

The potential dangers of food additives causing disease have been over-emphasized in regulations by the Food and Drug Administration to the virtual exclusion of the possibility that the removal of potentially protective factors might be fraught with greater danger. The theme of this paper will be to present evidence that dietary fiber which is removed with impunity from modern diets is strongly protective against many of the diseases which are characteristic of Western culture. Fiber has been deliberately removed from much of our food in the mistaken concept that because it supplies little nutrition it is consequently of no value. All too often in medicine that which is not understood has been considered dispensable. The tonsils, appendix and spleen are good surgical examples.

THE HAZARDS OF CONTACT WITH AN UNFAMILIAR ENVIRONMENT

All living organisms become in time adapted to the circumstances in which they live. The introduction of a new environment against which they have no protection has inevitable ill effects.

The intrusion of white visitors into Pacific islands in the second half of the 19th century resulted in devastating epidemics of infectious diseases such as tuberculosis, influenza and measles.¹ In time, however, the population developed some immunity to these new infections.

Approximately a century later another group of newly introduced diseases is beginning to take its toll in death and disability. These are the so-called degenerative diseases, an inappropriate name since they are not, as was once supposed, an inevitable consequence of advancing age, but are characteristic of more economically developed societies. These diseases include such major health hazards in Western communities as appendicitis, diabetes, coronary heart disease (CHD), gallstones, diverticular disease of the colon, large bowel cancer, hiatus hernia, and to a large extent, even varicose veins and hemorrhoids.^{2,3}

Not only are these diseases rare or uncommon in rural communities in Africa and most of Asia, but all available evidence points to some of them being decidedly rare and others relatively uncommon even in Western countries before the second quarter of the present century.⁴

Their current comparable prevalence between black and white Americans⁴ and between second and subsequent generation Japanese immigrants and Americans of other ethnic groups, in Hawaii and California⁵ and recently confirmed by personal discussions with physicians in Hawaii indicates that they are primarily caused by environmental rather than by genetic influences. These and other observations suggest that characteristically western diseases are the result, at least in part, of an environment against which protection has not been acquired.

The Old House
Bussage, Stroud, Gloucester
GL6 8AX United Kingdom

Presented as the second Julian Moore Memorial Lecture before the Buncombe County Medical Society, April 10, 1980.

IDENTIFYING CAUSES BY INVESTIGATING RESULTS

Epidemiological associations. Investigation of the distribution of a disease has often proved a powerful tool in unraveling its etiology. When the distribution of a disease can be delineated, some environmental factor having a similar distribution can be postulated as causative. It is important, however, to emphasize that epidemiological associations do not prove cause-and-effect relationships, but they do enable the erection of hypotheses that can be tested, experimentally or otherwise, and verified, discarded or modified accordingly.

If, on the other hand, a factor postulated to be the main cause of a disease has a distribution at variance with that of the disease in question the hypothesis can be abandoned as no longer tenable and unworthy of experimental testing. The role of epidemiology is thus to enable the formulation of hypotheses and to reduce by elimination those deserving further study.

Associated results suggest a shared cause. All the results of a common cause tend to be not only common, but also associated with one another wherever the cause actively operates. Conversely they will all be rare or non-existent where the cause is minimal or absent. Consequently, the recognition of associations between results suggests a shared cause. This applies to diseases which must be considered the results of causes. The closely similar geographical and socioeconomic distributions of the diseases enumerated above suggest shared causes. In addition, the observation that several of these diseases tend to occur together in the same individuals reinforces this conclusion.⁶ This applies to factors both causative of and protective against disease.

The significance of the order of disease emergence. Different diseases may require different intensities or duration of exposure to a shared environmental factor before they become manifest. In a community exposed from birth the required duration of exposure for each disease would be reflected in the age at

which the disease most commonly appears. On the other hand, when the responsible environment is newly introduced into a community, the time that must elapse before the appearance or increased prevalence of a disease will depend on the period that must pass after contact with the new environmental factor. This will differ with each disease as does the age of onset in Western countries. It is significant that the order of emergence of many characteristically Western diseases in Third World countries is closely similar to that of their emergence with age in Western communities.⁷ Appendicitis, hemorrhoids and diabetes are diseases encountered at a relatively young age in the West, and in less affluent communities they increase in prevalence before varicose veins, gallstones and coronary heart disease, which appear considerably later. Hiatus hernia and diverticular disease appear to be the last of all to become common diseases. There are notable exceptions to this general rule epidemiologically. As will be indicated below the protective mechanisms of fiber operate in different ways. It is possible to have enough fiber to protect against bowel disorders, while at the same time eating enough fiber-depleted carbohydrate foods to induce certain metabolic effects of such diets.

The island of Nauru in the Pacific is a good example of the effect of changed environment where the change to Western diet has been dramatic on disease patterns. The prevalence of diabetes and obesity has soared,⁸ appendicitis has emerged but CHD, gallstones and diverticular disease have not yet emerged.* Among the Pima Indians,⁹ however, both diabetes and gallstones have become extremely common, but this population still suffer much less from CHD than do other Americans and diverticular disease and hiatus hernia remain uncommon. Diabetes and obesity are rampant among black South Africans, but gallstones and CHD remain uncommon and diverticular disease rare.

*Zimmet, Personal Communication, 1978.

MAJOR DIETARY CHANGES PRECEDING DISEASE INCREASE

The environmental factors that characterize Western culture are diverse and numerous. In view of the fact that the diseases listed above are directly or indirectly related to the content and behavior of the alimentary tract it would seem logical to consider dietary changes before attempting to incriminate other environmental factors. The major changes that have taken place in the proportions of various food components consumed both in Western countries in the past, and in developing countries more recently, have been: (1) a reduction in total carbohydrate intake associated with a replacement of non-refined by refined carbohydrates, sugar in many countries now providing 50% of the total; (2) a consequent reduction in fiber, and (3) a reciprocal increase in the proportion of energy derived from fat.

The increase in fat has been postulated as one cause of CHD, gallstones, obesity and colo-rectal cancer. Increased sugar has been incriminated in the pathogenesis of diabetes and obesity, but all of these diseases have been shown to be related to a deficiency of fiber and of cereal fiber in particular in the diet.

Hypotheses that have been postulated to explain the pathogenesis of some of the group of illnesses now generally referred to as "Western Diseases" will be outlined below. In each of these, fiber-depleted diets have been incriminated as a causative factor, but it seems preferable to view fiber as protective against, rather than its absence causative of disease.

THE MECHANICAL EFFECTS OF CONSTIPATION

Constipation. The most common and most important single cause of constipation is a deficiency of fiber, and that of starchy staple foods in particular, in the diet. Fiber is strongly protective against constipation. It ensures that large-bowel content is bulky in volume and soft in consistency. This is partly due to its water holding capacity, but also to other mechanisms not yet fully

understood. The pentose fraction of fiber exerts the greatest effect, and this is much more prominent in cereals than in fruits and leafy vegetables. Legumes (peas and beans) and tubers (root vegetables) are more effective than leaf vegetables and fruit, but less so than cereals.¹⁰

Whereas people in communities subsisting mainly on carbohydrate foods retaining their fiber pass in the region of 300-600 g of stool daily, the amount voided in Western communities averages only 80-120g¹¹ with the exception of vegetarians who may pass double this amount. Western communities can be considered almost universally constipated by world standards.

Raised intra-abdominal pressures. When sitting in a raised Western type toilet seat the straining necessitated to evacuate firm small-volume fecal masses from the rectum can raise intra-abdominal pressures to nearly 200 cm: H₂O, whereas concurrent intra-thoracic pressures rise only to about 70 cm. These pressures are significantly less when defecating in the traditional squatting position.¹²

These raised intra-abdominal pressures have been postulated to contribute to the following diseases:

Hiatus Hernia

The only hypothesis for the causation of this upward protrusion of the gastro-esophageal junction through the esophageal hiatus in the diaphragm that is consistent with the epidemiological features of the disease is the one set out below.

If a ball with a hole in its wall is squeezed the contents will be readily extruded through the hole. The abdominal cavity, surrounded by muscles, can be likened to such a ball. The aperture in the diaphragm transmitting the esophagus is the hole in its wall. It is not difficult to visualize how straining the muscles of the abdominal wall could force the upper end of the stomach through the esophageal hiatus and into the thoracic cavity.

Consistent with this hypothesis is the routine practice of radiologists who deliberately raise intra-abdominal pressures in order to demon-

strate the presence of a hiatus hernia.

Since fiber is protective against constipation it must protect against hiatus hernia if this hypothesis is accepted. This defect is not known to be other than rare in any community in which stools are customarily large and soft.

Varicose Veins

All raised intra-abdominal pressures are readily transmitted to the major venous trunks draining the leg veins. This causes a retrograde flow of blood under increased pressure into these veins. This has been postulated to result over a period of time in dilation of the proximal segments of the veins. The stretching of the walls to which the valve cusps are attached renders them incompetent. This valve failure progresses sequentially from valve to valve from above downwards. The intra-venous pressures raised both by the column of unsupported blood and the pressures generated by abdominal straining have been postulated to be a major factor in the causation of varicose veins.¹³ Although it is not suggested that this is a sole cause, adequate dietary fiber, by minimizing the necessity to strain at stool, can be considered protective.

Raised intra-luminal pressures

Diverticular Disease

The presence of small volume firm fecal masses within the colon necessitates exaggerated contractions of the muscle in the bowel wall in order to propel its resistant content onwards. This raises the pressures within the lumen of the bowel and these are believed to be the fundamental cause of diverticula, which are protrusions of the lining mucosa of the colon forced out through weak spots in the over-lying muscle coat.¹⁴ Again fiber, by ensuring that the bowel content is voluminous and soft, precludes the necessity for exaggerated activity on the part of the bowel musculature and can consequently be considered protective against diverticulosis. The routine prescription of fiber-rich diets has reduced the requirement of surgical inter-

vention in diverticular disease by up to 90% and symptoms can be relieved in over 80% of patients.¹⁵

Appendicitis

It is now generally accepted that appendicitis is initially an obstructive phenomenon with an inflammatory process subsequently superimposed. It would be difficult to explain the sequence of clinical symptoms and the usual limitation of pathological changes to the distal portion of the appendix on other grounds.

The presence of firm fecal particles in the appendix seem the most likely cause of lumen obstruction, occasionally by impaction, but more often by contraction of circular muscles as occurs in the pelvic colon to occlude its much wider lumen to contribute in the development of diverticular disease.

Other effects of constipation

Hemorrhoids

The work of Thomson¹⁶ suggests that these can no longer be considered as varicosities of hemorrhoidal veins, but rather as a prolapse of vascular sub-mucosal cushions which normally surround the upper anal canal to ensure fecal continence.

Not only does abdominal straining result in venous engorgement of these cushions, but in addition the shearing stress of forcing firm fecal masses along the anal canal ruptures their attachments to the sphincter muscles with their resultant prolapse towards the anal orifice.

Constipation thus appears to be a major causative factor and this observation is being increasingly acted upon in surgical clinics in Britain and The Netherlands. In many of these clinics the initial treatment for all patients with hemorrhoids is to prescribe a diet rich in cereal fiber, and this has been shown, as in the case of diverticular disease, to drastically diminish the number requiring surgical intervention.¹⁷

Colon Cancer

The most favored current hypotheses for the causation of colon cancer incriminates bacterial

metabolites of bile acids,¹⁸ N-nitroso compounds¹⁹ or derivatives of cholesterol.²⁰

No matter what the causes of colon cancer, there is increasing consensus of belief that fiber, and cereal fiber in particular, is protective against this disease.

Epidemiological evidence indicates that almost all communities with high rates of large bowel cancer consume diets with a high fat and a low fiber content and vice versa. Recent comparisons between rural Finns and populations in both Copenhagen and New York have strengthened belief that fiber, and cereal fiber in particular, may confer protection. Rural Finns have only one quarter the color cancer rates observed in Copenhagen or in New York.²¹ Fat consumption is closely comparable in all three communities but the Finns consume nearly twice as much fiber and particularly cereal fiber, as do the other two, and as a consequence void a much greater volume of stool.

Several mechanisms, which probably operate in combination, have been postulated to account for the protective action of fiber against colon cancer.

By diluting bile acids in an increased fecal volume and by other means not yet understood it reduces the bacterial degradation of primary to the secondary bile acids which have been postulated to be carcinogenic.²² Fiber can lower fecal pH and colon cancer risk in different communities has been shown to relate directly to fecal pH values. The various mechanisms whereby lowering fecal pH may protect against colon cancer have been summarized by Burkitt.²³

Fiber has been shown to bind various poisons and toxins in the gut, and may well act likewise on fecal carcinogens.²⁴

Whatever the causes of colon cancer, they will be less harmful if diluted in a large fecal volume than if concentrated in a small one. In addition it would seem prudent to ensure their more rapid transit through the gut, and more frequent elimination, with consequent reduction in their period of contact with mucosa, than to allow them to

lie stagnant in the bowel for days or weeks.

Fiber as protection against other effects of fiber-depleted diets

Excessive Energy Intake

Fiber, by increasing the bulk relative to the energy content of food, puts a brake on excessive nutrition. The earlier sense of satiety achieved when eating fiber-rich foods mitigates against the excessive energy intake occasioned by consumption of foods composed solely of energy.²⁵ Thus fiber can be considered protective against obesity. This in no way negates the recent important work in incriminating the energy burning property of brown fat cells as another important protection against excessive fat storage.²⁶

Excessive Rate of Nutrient Absorption

Fiber-depleted diets tend to result in abnormal fluid content in the small bowel. This allows over-rapid absorption of energy into the circulation, most of the nutrients, and sugars in particular, being absorbed from the upper jejunum. Certain components of fiber on the other hand, and guar gums in particular, render the intestinal content more viscid, so that the energy escapes more slowly throughout almost the entire length of the jejunum and much of the ileum. Over rapid absorption of energy imposes excessive demands for rapid production of insulin, whereas the demands made where the absorption rate is reduced are gradual and exerted over a prolonged period.

The excessively rapid release of energy from the gut is believed to be important in the pathogenesis of diabetes,²⁷ and certain elements of fiber can thus be considered protective against this disease.

This hypothesis is enhanced by the excellent therapeutic results achieved by treating diabetics with high carbohydrate diets, rich in fiber, but low in sugar,²⁸ an observation in keeping with the epidemiological features of the disease, but at variance with what has been customary treatment. Guar-gums obtainable principally from the Indian cluster bean have proved

especially effective in controlling blood sugar anomalies.

Lithogenicity of Bile

Cholesterol gallstones are the result of production by the liver of cholesterol saturated bile. Crystals form and provide the basis for stone formation when the cholesterol content of the bile is in excess of the amount of bile acids and lecithin available to keep it in solution. Fiber both reduces the cholesterol content and increases the relative proportion of beneficial chenodeoxycholate over the less valuable deoxycholate in the bile.²⁹

For these and other reasons fiber is believed to afford protection against cholesterol gallstones.

There are of course many other factors contributing to their cause and their predominance in women suggests the implication of hormones.

It is of interest that the Japanese were almost exempt from cholesterol gallstones until they adopted a more Western style of diet after the second world war.³⁰

PRACTICAL PROTECTIVE MEASURES

The mechanisms postulated whereby fiber may confer protection against some Western diseases are consistent with epidemiological evidence and make biological sense. They cannot yet be considered as proven, but it is neither scientifically nor morally justifiable to postpone the implementation of reasonable hypotheses until absolute proof has been acquired. There are numerous examples in medical history to condemn such an attitude. In accordance with Lind's observations that fresh fruit and vegetables afforded protection against scurvy, Capt. Cook acted on his recommendations a century before vitamin C was isolated and lost not a man from scurvy when discovering New Zealand.

There is no good evidence that returning to our diet some of the fiber that has been removed will have ill effects, other than in rare unusual situations, whereas the potential benefits to be gained are enormous. Any postulated ills of

such action must be assumed to have been present until a century ago. If so where is the evidence?

Relatively simple dietary changes could have highly beneficial effects and these would include:

1. A greatly increased consumption of bread, but substituting whole meal, or near whole meal, for white flour.

2. Liberal consumption of fiber-rich breakfast cereals, either oat-meal porridge or packaged breakfast foods, preferably with the addition of one heaped tablespoonful of miller's brand per person daily.

3. Reduction of sugar intake by about a half.

4. Liberal consumption of potatoes, preferably retaining their skins, and neither cooked in, nor eaten with, fat.

5. A reduction in consumption of fat to compensate for increased energy intake from carbohydrates. This entails cutting down meat consumption since nearly 40% of even lean meat as currently produced in Western countries is composed of fat. Moreover, meat is the most uneconomical manner in which to obtain nutrition.

6. A radical reduction in confectionery composed of white flour,

sugar and fat. Total prohibition is not practicable since to encourage compliance idealism must be wedded to acceptability.

Such protective measures would correspond to erecting a fence round the edge of a cliff to prevent men falling over, whereas therapeutic medicine, which is pre-eminently directed to salvaging casualties, can be likened to the stationing of ambulances at the foot of the cliff.

The money spent on the latter and less effective approach is over 100 times that devoted to the former. Do we not deserve the ironical comment of the American poet Ogden Nash who wrote — "We are making great progress, but we are headed in the wrong direction."?

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High Risk Indicators of Fetal and Neonatal Mortality in Durham County, N.C.

Craig D. Turnbull, M.P.H., Ph.D., John D. Fletcher, M.D., M.P.H., and Anne B. Klein, A.B.

ABSTRACT Scurletis, Turnbull, and Corkey¹ emphasized the need for each community to subclassify its population regarding the impact of selected characteristics as indicators of high risk of fetal and infant mortality. The findings of this study are additional evidence for this need since many of the high risk indicators suggested by Scurletis et al.¹ for North Carolina in 1970 were also operant in Durham County, North Carolina.

INTRODUCTION

DUE to the lack of significant reduction of fetal and neonatal mortality rates researchers have continued to study these morbid events. To date, little has been accomplished in terms of practical utilization of available information regarding these events. This communication speaks to this point.

Efforts have been directed at entire populations and have not concentrated on those subpopulations (or groups) at greatest risk. As a result, those at greatest risk may not have been effectively served. When one attempts to identify such subpopulations, mechanisms should be developed which can be applied simply, which utilize available information and which are easily interpreted. This could be accomplished by identifying subpopulations which experience high

fetal and neonatal mortality rates.

This communication is based on the prior work of Scurletis, et al.¹ who demonstrated important relationships between fetal, neonatal and postneonatal mortality and the following indicators of high risk for both whites and nonwhites:

Age of parturient (AGE < 18 and AGE > 34)

Birth order (BO > 4)

History of a previous live birth which is now dead (PLBND)

History of a previous fetal death (PFD)

Level of educational attainment (EDUC < 9 and 9-11)

Out of wedlock pregnancy (OW)

Donnelly, et al.², as well as Shapiro and Abramowicz³ and Turnbull⁴ reported that offspring of parturients under 20 and those over 29 years of age were at risk of perinatal death (fetal or neonatal). Donnelly, et al.⁵ noted an increase in parity was associated with an increase in the risk of perinatal mortality, even after adjusting for race, age and selected other factors.

High rates of infant mortality have been noted by Stickle and Ma⁶ for parturients who experienced a previous fetal death. In addition, level of education has been found to be useful in identifying high risk parturients; a low level of educational attainment has been noted to be an indicator of high fetal and infant mortality.^{1,7,8,9,10} Also, Fletcher and Turnbull¹¹ noted that illegitimacy (or out of wedlock pregnancy) is also a high risk indicator of fetal and infant mortality.

The purposes of this study are:

- (1) to describe the trends in Durham County's fetal and neonatal mortality rates from 1966 to 1976 and to observe if the rates differed for whites and nonwhites,
- (2) to compare Durham County's fetal and neonatal mortality rates with those reported by Scurletis, et al.¹ for North Carolina in 1970, and
- (3) to examine Durham County's high risk characteristics since interest centered on determining if the high risk categories defined by Scurletis, et al.¹ for North Carolina in 1970 were also operant in Durham County (the two-year period of 1975-76 was employed in this effort due to the relatively small number of events for any specific, single year in Durham County).

METHODS

Vital records for Durham County for 1966 and 1976 were examined to study pregnancies which resulted in either a live birth, fetal death or neonatal death. The risk characteristics mentioned above were selected for study since they have been shown to be important indicators of fetal and infant mortality. The data were analyzed separately for whites and nonwhites in order to discern if similar high risk characteristics exist for these racial groups.

This communication presents descriptive analyses; that is, mortality rates for various subpopulations are compared to relevant total popula-

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tions. If the rate for a subpopulation is larger than the relevant total population rate, the authors consider this to be an important clinical finding which indicates the subpopulation is at high risk.

RESULTS

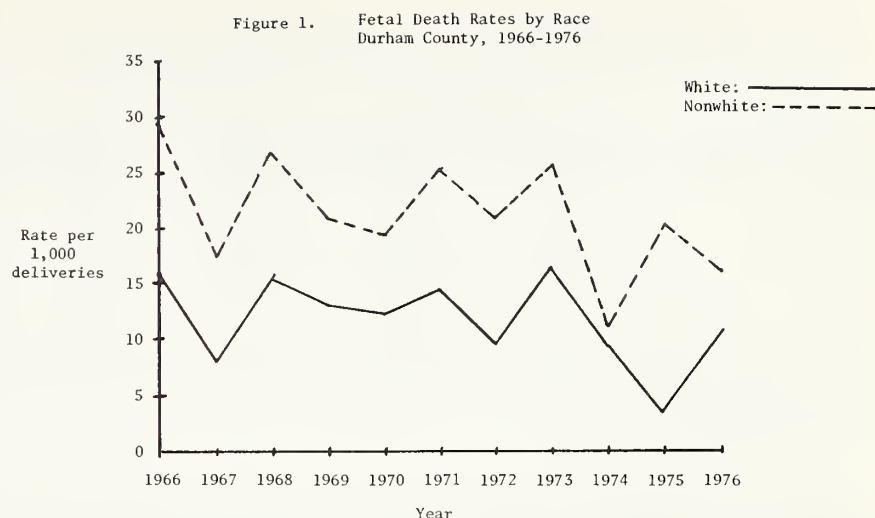
Durham County's fetal death rates (per 1,000 deliveries) by race for 1966 through 1976 are shown in Figure 1. The trends are erratic; however, they show that whites experienced lower rates than nonwhites. This finding is in agreement with that reported by Scurletis, et al.¹ for North Carolina in 1970. Trends of neonatal death rates (per 1,000 live births) by race for Durham County from 1966 through 1976 are also erratic (Figure 2). The rates for nonwhites exceeded those for whites for all years except 1968 and 1973.

While it is neither the purpose, nor within the scope of this paper to attempt to explain variations in fetal and neonatal rates over time, it can be useful to compare briefly the Durham County data to those reported by Scurletis, et al.¹ for North Carolina in 1970. The authors will then examine more closely the Durham County data for 1975-76 to note if the risk characteristics reported by Scurletis, et al.¹ were also operant in Durham County.

The prior study¹ reported a white fetal mortality rate of 13.5 per 1,000 deliveries for North Carolina in 1970 and a nonwhite fetal mortality rate of 22.9 per 1,000 deliveries. Similar data for Durham County's white and nonwhite populations were 12.5 and 19.3, respectively, reflecting a more favorable fetal mortality experience in Durham County. A comparison between Durham County and North Carolina neonatal death rates revealed that in 1970, Durham County whites experienced a neonatal death rate of 12.6 per 1,000 live births as compared to 15.1 for North Carolina.

Such a favorable comparison did not hold for Durham County's nonwhite population versus that for the state since the neonatal death rates were 31.0 and 24.0, respectively.

Table I presents a portion of the findings for fetal and neonatal mor-



tality reported by Scurletis, et al.¹ for North Carolina in 1970. Seven of the eight white subpopulations were at high risk of fetal death since their rates were higher than the total white fetal death rate — the exception was for parturients under 18 years of age (AGE < 18). The following nonwhite subpopulations were at high risk of fetal death: AGE > 34, BO > 4, EDUC < 9, OW, PFD and PLBND. Each of the nine nonwhite fetal death rates (i.e., eight subpopulations and the total rate) was higher than its white counterpart.

Each of the eight white subpopulations were at high risk of neonatal death since each rate was larger than the total white neonatal rate. In addition, seven of the eight nonwhite subpopulations were at high risk of neonatal death since each

rate was larger than the total nonwhite neonatal rate — the exception was for nonwhite parturients in the EDUC 9-11 subpopulation. Each of the nine nonwhite neonatal death rates was larger than its white counterpart.

Table II presents fetal and neonatal death rates for whites and nonwhites in Durham County for 1975 and 1976. Due to the relatively small size of the populations at risk, the indicators employed by Scurletis, et al.¹ were redefined as follows:

AGE < 18 and AGE > 34 — no change
Education (EDUC < 12)
OW — no change
Parity (PAR > 3)
PFD — no change
PLBND — no change

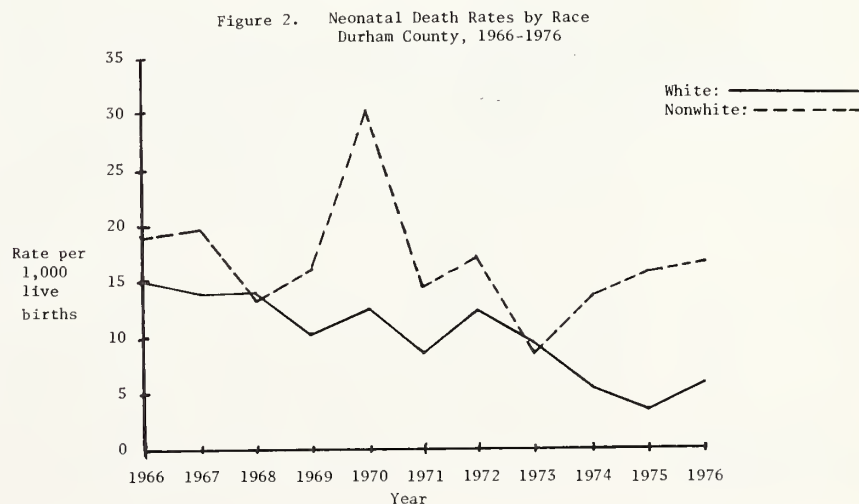


Table I: Fetal and Neonatal Death Rates by Race, North Carolina, 1970

| Characteristic | Fetal death rate* | | Neonatal death rate** | |
|------------------|-------------------|----------|-----------------------|----------|
| | White | Nonwhite | White | Nonwhite |
| AGE < 18 | 12.4 | 21.4 | 28.0 | 30.6 |
| AGE > 34 | 27.5 | 53.3 | 15.3 | 27.9 |
| BO > 4 | 23.5 | 38.3 | 18.1 | 28.0 |
| EDUC < 9 | 19.5 | 28.4 | 19.3 | 29.7 |
| EDUC 9-11 | 13.9 | 22.6 | 16.8 | 23.0 |
| OW | 22.1 | 26.5 | 22.6 | 27.2 |
| PFD | 20.3 | 40.8 | 21.0 | 36.2 |
| PLBND | 21.2 | 30.4 | 34.1 | 48.5 |
| Total population | 13.5 | 22.9 | 15.1 | 24.0 |

Source: Adapted from Scurletis, T. D., Turnbull, C. D. and Corkey, D. C.: High Risk Indicators of Fetal, Neonatal and Postneonatal Mortality, *NCMJ*, 34: 183-192, 1973

*Rate per 1,000 deliveries

**Rates per 1,000 live births

The data for white fetal mortality show that the following subpopulations experienced a higher rate than the total white fetal death rate: AGE < 18, AGE > 34, EDUC < 12, OW and PFD. We suggest these five white subpopulations in Durham County are at high risk of fetal death.

Only four of the seven nonwhite subpopulations were found to be at high risk of fetal death: AGE > 34, PAR > 3, PFD and PLBND. Six of the eight nonwhite fetal death rates (i.e., seven subpopulations and the total rate) were larger than their white counterparts. The exceptions were AGE < 18 and OW, otherwise nonwhites were at greater risk of fetal death than whites.

Six of the seven white subpopulations were at high risk of neonatal death since their rates were larger than the total white neonatal rate — the exception was OW. The data for nonwhite neonatal death revealed that the following four subpopula-

tions were at high risk since each rate was larger than the total nonwhite neonatal rate: AGE < 18, AGE > 34, EDUC < 12 and OW.

Seven of the eight nonwhite neonatal death rates were larger than their white counterparts — the exception was for parturients who experienced PLBND.

The following presents a comparison of the most important high risk indicator of fetal and neonatal death by race for North Carolina in 1970 versus that for Durham County in 1975-6:

| | North Carolina 1970 | Durham County 1975-6 |
|----------------|------------------------|-------------------------|
| Fetal death | | |
| White | AGE > 34 | OW |
| Nonwhite | AGE > 34 | AGE > 34 |
| Neonatal death | | |
| White | PLBND | PLBND |
| Nonwhite | PLBND | AGE > 34 |

These data reinforce some of the findings of Scurletis, et al.¹, since one notes a similar highest risk characteristic for nonwhite fetal

death in both North Carolina and Durham County (AGE > 34) and also for white neonatal death in North Carolina and Durham County (PLBND).

It is suggested that each community screen both its white and non-white population as to high risk of fetal and neonatal death by utilizing the indicators suggested by Scurletis, et al.¹ It is recognized that it may be necessary to modify the characteristics of risk for individual communities in order to accommodate local demographics and the experiences of prior years. We quote Scurletis, et al.¹: "By studying the characteristics of the birth and death population of a previous year, the characteristics of the high risk group can be established by asking women of childbearing age six critical questions:

1. What is your age?
2. How many pregnancies have you had?
3. How many years of education have you completed?
4. Have you had (experienced) a previous fetal death?
5. Have you had (experienced) a previous child born alive who is now dead?
6. What is your marital status?

The responses to these questions will classify each woman with respect of risk of fetal, neonatal and postneonatal death."

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Table II: Fetal and Neonatal Death Rates and Populations at Risk (PAR) by Race, Durham County, N.C., 1975-6

| Characteristic | Fetal death | | | | Neonatal death | | | |
|------------------|-------------|-----------|----------|-----------|----------------|-----------|----------|-----------|
| | White | | Nonwhite | | White | | Nonwhite | |
| | Rate* | # at risk | Rate* | # at risk | Rate** | # at risk | Rate** | # at risk |
| AGE < 18 | 9.5 | 105 | 3.9 | 259 | 19.2 | 104 | 27.1 | 258 |
| AGE > 34 | 17.2 | 58 | 42.3 | 71 | 17.5 | 57 | 44.1 | 68 |
| EDUC < 12 | 9.3 | 428 | 13.4 | 746 | 4.7 | 424 | 27.0 | 704 |
| OW | 25.6 | 78 | 14.9 | 803 | 0.0 | 76 | 21.5 | 791 |
| PAR > 3 | 5.1 | 197 | 28.6 | 280 | 5.1 | 196 | 7.4 | 272 |
| PFD | 10.2 | 392 | 32.7 | 367 | 7.7 | 388 | 8.4 | 355 |
| PLBND | 0.0 | 46 | 29.9 | 67 | 21.7 | 46 | 15.4 | 65 |
| Total population | 6.7 | 2100 | 18.2 | 1755 | 4.3 | 2086 | 16.3 | 1723 |

*Rate per 1,000 deliveries

**Rate per 1,000 live births

Hereditary Deficiency of Thyroxine-Binding Globulin

William D. Wilson, Jr., M.D.,* and Robert P. Schwartz, M.D.**

ABSTRACT A case report is presented to illustrate the need for performing a T₃ resin uptake along with a T₄ to prevent the treatment of euthyroid patients who have quantitative thyroxine-binding globulin (TBG) abnormalities.

THE evaluation of thyroid function routinely includes the measurement of T₃ resin uptake as an indirect index of available thyroxine-binding globulin (TBG) sites. A decreased serum thyroxine (T₄) in conjunction with an increased T₃ resin uptake suggests decreased thyroxine binding capacity of TBG or TBG deficiency.

We report the case of a boy with a low T₄ who was treated for hypothyroidism before T₃ resin uptake and TBG levels revealed TBG deficiency.

CASE REPORT

The patient, a 10 4/12-year-old white male, was initially seen by his private physician at age 8 because of obesity and was found to have a T₄ of 2.6 µg/dl. He was started on desiccated thyroid, 2 grains daily, which was later increased to 4 grains. The thyroid medication was discontinued after six months due to a lack of clinical response. He was lost to follow-up until 10 years of age when a repeat T₄ was 1.7 µg/dl with a normal TSH. Because of the

low T₄, yet euthyroid clinical status, he was referred for further evaluation.

There was no history of lethargy, personality change, cold intolerance, or constipation. Early developmental landmarks were appropriate. He was an "average" student in the fifth grade. He was on no drugs or medications. There was no family history of thyroid disease. Physical examination revealed a moderately obese, alert white male. His weight was 102½ lbs. (93rd percentile), and his height was 135.5 cm (25th percentile). The pulse was 80, and blood pressure 105/65.

Skin was normal in texture. There was no myxedema. The thyroid gland was normal to palpation. Genital development was Tanner Stage II. Deep tendon reflexes were normal without delay in the relaxation phase.

LABORATORY RESULTS

The laboratory data on the patient and his immediate family is presented in Table I. Findings on the patient included a low T₄ with an elevated T₃ resin uptake. TSH was normal. A TBG level (RIA, Mayo Medical Laboratories) was decreased. Total protein was 7.3

gm/dl; albumin was 4.3 gm/dl. Bone age x-ray of the hand was consistent with chronological age.

A screen of other family members included a 9-year-old male sibling and the patient's mother, both of whom were also clinically euthyroid. The brother had identical findings of low T₄, elevated T₃ resin uptake, normal TSH, and a low TBG. Maternal studies were borderline low.

DISCUSSION

Transport of thyroxine in vivo is accomplished through binding with plasma proteins. The majority of thyroxine is bound to TBG and lesser amounts are bound to prealbumin and albumin.¹

Quantitative abnormalities in TBG have been well-described. Elevated levels of TBG may be secondary to estrogens or perphenazine.² TBG is also elevated in pregnancy and in neonates. Hereditary elevations of functionally normal TBG usually occur as an X-linked dominant disorder.^{3,4} Thyroid function studies in these individuals and in those with drug-induced elevations in TBG show increased T₄ values with depressed T₃ resin up-

TABLE I

| TEST | TOTAL T ₄ | T ₃ UPTAKE | CALCULATED FREE T ₄ INDEX | TSH | T ₃ BY RIA | TBG BY RIA |
|--------------------|----------------------|-----------------------|--|-----------|-----------------------|------------------|
| Patient (10 yrs) | 2.0 µg/dl | 55.7% | 1.11 | 4 µU/ml | 71 ng/dl | 7 µg/dl |
| Patient's Brother | 2.3 µg/dl | 55.8% | 1.28 | 3 µU/ml | 76 ng/dl | 6 µg/dl |
| Patient's Mother | 5.5 µg/dl | 40.0% | 2.20 | 4 µU/ml | 95 ng/dl | 14 µg/dl |
| Adult Normal Range | 4.5-12.5 µg/dl | 25-35% | 1.12-4.37 | <10 µU/ml | 98-168 ng/dl* | 16-25 µg/dl |
| 10 yr Normal Range | 6.4-13.3 µg/dl | 25-35% | 1.60-4.65 | <10 µU/ml | 108-178 ng/dl | similar to adult |

*Assuming 30 yr adult (T₃ normal are age related)

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take reflecting an increased number of thyroxine binding sites on TBG.

Decreased levels of TBG also influence thyroid function studies. Androgens and prednisone have been shown to depress TBG levels. Phenytoin is associated with decreased thyroxine binding capacity of TBG.² Laboratory studies in individuals taking this drug show a low T₄ with an increased T₃ resin uptake reflecting decreased binding sites on TBG or TBG deficiency.

Families with TBG deficiency, usually as an X-linked dominant disorder, have been reported.⁵⁻⁷ Marshall, Levy and Steinberg⁵ studied a 38-member kindred including six clinically euthyroid males with TBG deficiency. Eight females in the same kindred had laboratory findings consistent with an intermediate deficit in TBG: borderline low PBI or borderline ele-

vated T₃ resin uptake, or both. Because of our patient's low T₄, elevated T₃ resin uptake, and euthyroid clinical status, TBG deficiency was suspected and confirmed by determination of TBG.

Screening programs for congenital hypothyroidism have shown an incidence of TBG deficiency of 1:7900.⁸ More neonates with this deficiency will be found as thyroid screening becomes more common. The initial thyroid function tests ordered should always include a T₃ resin uptake along with a T₄ to prevent the treatment of euthyroid individuals who have quantitative TBG abnormalities. A TBG level can be obtained to confirm the diagnosis.

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Acknowledgments

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Hymenoptera Venom Allergy—From the Immunology Research Laboratory to Clinical Practice

Donald R. Hoffman, Ph.D.

ONLY a few years ago the state of the art of stinging insect allergy consisted of diagnosis by intradermal skin testing with an extract prepared by grinding up whole insects—usually a mixture of honey bees, yellow jackets and hornets—and treatment consisted of a series of injections of these same extracts until an arbitrary maintenance dose was reached.¹ Most authorities claimed this therapy was over 95% effective and cited retrospective and statistical studies to support their claims.¹ Laboratory studies from several institutions had shown that the “relevant” antigens were present in these extracts and that these antigens were extremely cross reactive. However, several investigators had questioned the diagnostic value of the intradermal skin test with whole body extract (WBE), since many patients with convincing histories of sting anaphylaxis gave negative skin tests and patients with no histories of sting reactions or even of being stung gave positive skin tests.² Many allergists treated patients on the basis of history alone without confirming tests. A few voices were heard questioning the prevalent standard, but these were dismissed by most as a fringe element.

In 1973, a four year old boy with a

history of two almost fatal reactions to honey bee stings, the second reaction following a course of whole body extract therapy, was seen by Lichtenstein, et al.³ The boy's sister had previously died from bee sting anaphylaxis and the risk of exposure was extremely high, since the father was a commercial beekeeper. It had been noted previously that beekeepers, who are stung regularly, rarely have allergic reactions to honey bee stings. The father collected bee venom and the venom was sterilized and used to attempt to desensitize the patient by doubling the dose every 20 to 30 minutes. At the equivalent of $\frac{1}{3}$ sting the boy experienced systemic symptoms and the reaction became severe at one sting equivalent or 50 mcg. Repeated injections caused repeated reactions. The patient was then placed on a slower protocol requiring two months of injections. After he had reached a top dose of 100 mcg, he was intentionally stung without incident. Serological studies showed a substantial rise in IgG anti-venom titer had occurred during the two months of therapy.³

At this point it became respectable to question the efficacy of whole body extract immunotherapy and several laboratories undertook experiments with venom. Venom from honey bees was relatively easy to obtain by the use of an electric shock grid placed under hives. The venom from vespids, yellow jackets

and hornets, and from paper wasps was much more difficult to obtain, since these insects must be obtained in the wild and the use of the electric shock system tends to anger all the insects in a large area. It was found that an enriched preparation of venom could be prepared from venom sacs of frozen insects, which allowed collection in the wild. The procedure is still laborious and expensive, and there is only one major supplier in the world at present.

Since venom was to be a pharmaceutical preparation, it was necessary to perform clinical trials to verify efficacy as a diagnostic and therapeutic agent and to characterize the material for purposes of toxicology and standardization. The most thorough biochemical investigation was performed on honey bee venom since it was available in a highly purified form. Five significant allergens were isolated and characterized and they represented virtually all of the venom protein.^{4,5} These allergens are the enzymes acid phosphatase, hyaluronidase and phospholipase A₂; a protein called allergen C and the basic polypeptide melittin. Other peptides in the venom were found to be non-allergenic. The other venoms were also found to have multiple allergens including phospholipases, hyaluronidases and a protein called antigen 5.^{6,7} The vespid and wasp venom proteins were much less stable than those from honey

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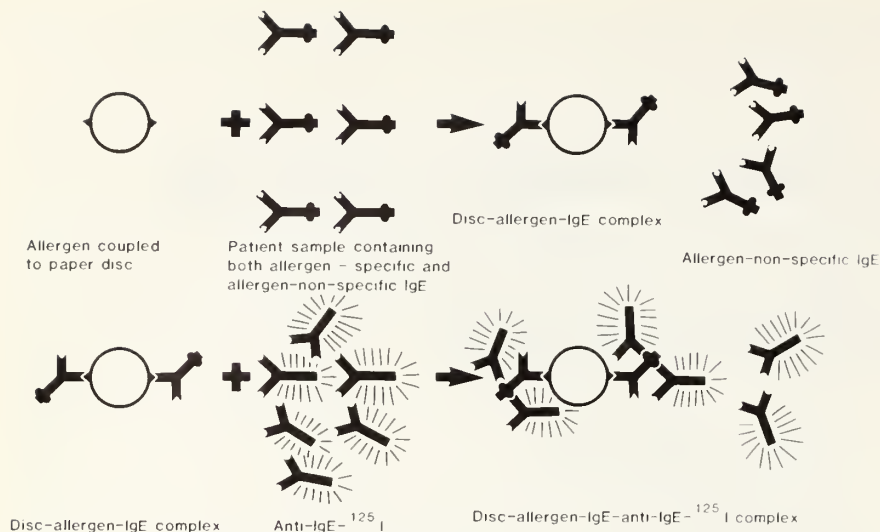


Figure 1. The Radioallergosorbent Test or RAST.

bee venom. Toxicological investigation showed that the LD₅₀ was about 5 mg/kg for mice by an intravenous route and that the venom was less toxic by intradermal and subcutaneous routes. Other toxicological investigation showed 0.1 mg doses of venom caused no significant pathology. A major retrospective study using multiply stung beekeepers as subjects showed that this group was apparently healthier than a random sample of the non-stung population.⁸

Several centers investigated the use of venom as a diagnostic reagent. Intradermal skin tests using venom at a maximum concentration of 1 mcg/ml were found to correlate highly with histories of recent reactions to stings.⁹ Higher venom concentrations gave positive tests in control subjects. Venom skin testing also showed specificity for the insect clearly distinguishing between bee, vespid and paper wasp and in many cases differentiating among the vespids. Various whole body extracts were found to give poor discrimination between sensitive and non-sensitive individuals.¹⁰ Venom was also evaluated in the radio-allergosorbent test or RAST (Figure 1) as an in vitro diagnostic tool. Correlations of RAST with clinical history and venom skin test of from 80% to 95% were demonstrated for each of the venoms.^{11,12} The insect specificity observed by skin test was confirmed by RAST

studies. Whole body extract was a much less potent antigen in RAST and correlated more with previous WBE treatment than with venom sensitivity.¹⁰ Histamine release from patient basophil leukocytes was also tested with venom and venom proteins as allergens and was found to correlate highly with clinical history, venom skin test and venom RAST.¹³

The first scientific evidence for the efficacy of venom immunotherapy was provided by Hunt, et al¹⁴ whose venom allergic patients were evaluated by skin test, RAST and histamine release into three matched groups. Group I received immunotherapy with the venoms indicated by skin test, Group II received therapy with whole body extract and Group III received placebo. Group I was treated to a maximum dose of 100 mcg venom, Group II up to 0.3 ml of 1:10 extract per injection and Group III was given a dose of histamine giving a 1 cm wheal each injection. The patients were then challenged by sting with the appropriate insect. Systemic reactions occurred in 7 of 12 placebo treated patients, 7 of 11 patients treated with WBE and only 1 of 18 treated with venom. Several of the reactions in Group II and III patients were extremely severe. The single reaction in a venom treated patient was only mild urticaria. On statistical analysis the reaction rates for patients treated

with placebo and WBE were similar indicating no efficacy for WBE treatment. Venom treatment was highly successful. Several laboratories have since examined the venom content of both commercial and freshly prepared WBEs and found them to contain less than 1% of the venom dose needed to provide protection. Because of the severe reactions encountered during sting challenge of placebo and WBE treated patients in the Hopkins study, other investigators have not performed challenges in controlled studies. However, at least three groups have sting challenged venom treated patients and demonstrated that about 90%-95% are protected by a monthly maintenance dose of 100 mcg of venom. Most of the failures at this dose are protected by doubling the maintenance dose to 200 mcg. However, venom treatment is accompanied by a significant risk of systemic or large local reactions during therapy. Adverse reaction rates of 15% to 35% have been reported by various groups, but all the systemic reactions have been readily controlled with epinephrine.¹⁵

Venom allergy is an excellent model system for the study of immunologic parameters in allergy. Other allergies like pollen or mold induced hayfever and asthma are difficult to evaluate objectively since laboratory challenges poorly reproduce the natural exposure and usually require at least a thousand times more antigen than the natural route. Several poorly understood variables including extraction and absorption of antigen, possible local IgE production and threshold effects further complicate studies. In venom allergy the allergen is naturally injected into the skin and/or circulation. Exposure is almost always recognized by the patient since the sting is painful. It is possible to sting-challenge the patient with live insects in the laboratory exactly duplicating the natural exposure.

Two immunological parameters have been found to be significant in determining whether an individual is clinically sensitive to venom and whether a previously sensitive individual is protected from venom al-

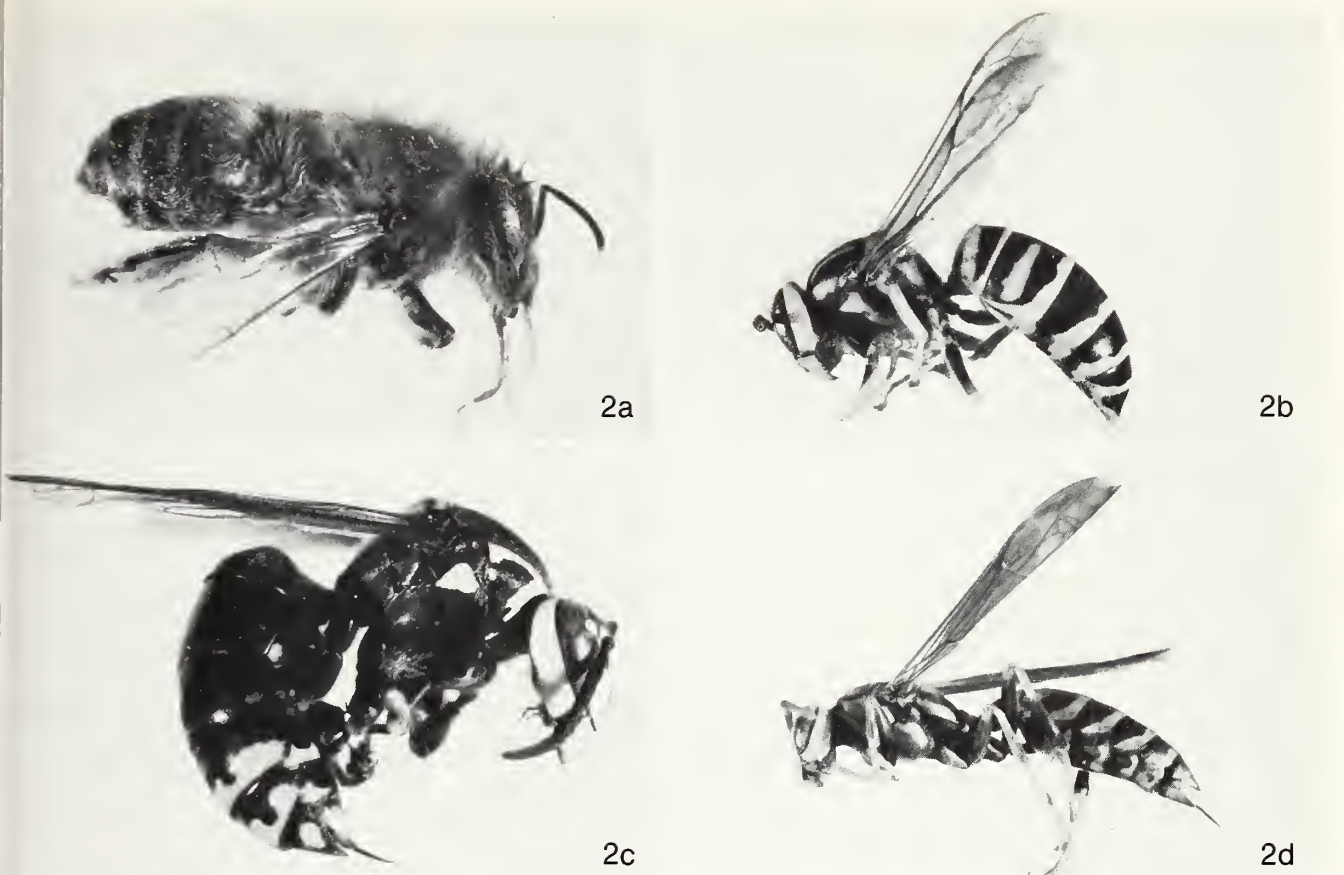


Figure 2. Some stinging insects of importance in North Carolina. Honey bee — *apis mellifera*

(upper left); yellow jacket — *Vespula squamosa* (upper right); white faced hornet —

Dolichovespula maculata (lower left); paper wasp — *Polistes exclamans* (lower right).

lergy. Almost all persons clinically allergic to a stinging insect venom have elevated levels of IgE antibody against that venom in their serum and have venom specific IgE antibody on their basophils and mast cells as demonstrated by histamine release and skin testing.^{3,4,9,11,13} Both previously sensitive individuals who tolerate sting challenges following immunotherapy with venom and often-stung beekeepers who have elevated levels of bee venom specific IgE but do not react to stings have increased venom specific IgG antibodies in their sera.^{8,14,16} This led to the postulates that IgE antibodies are sensitizing and that IgG antibodies are protective, the so-called "blocking antibodies" proposed by Cooke.¹⁷

Several experiments have been performed to test this hypothesis. In the most courageous experiment untreated honey bee sensitive individuals were sting challenged. Several who reacted to the challenge were infused with gamma globulin

prepared from beekeepers who were regularly stung without adverse reaction. The gamma globulin pool contained a high titer of antibody against bee venom phospholipase A. After infusion the subjects were challenged again and all tolerated substantially higher doses than those causing initial reactions.¹⁸ Retrospective studies of patients on venom immunotherapy have shown that many who react to sting challenge do not show a significant level of IgG antibody to venom.¹⁵ In another study it was shown that patients allergic to honey bee venom who reacted to sting challenge after venom immunotherapy had lower IgG:IgE ratios to three or more of the five bee venom allergens than patients who did not react to challenge.¹⁹

As a result of these studies venom from the five most important stinging insects—honey bees, yellow jackets, yellow hornets, white faced hornets and paper wasps—has been approved by the Food and Drug

Administration and is sold by two allergen manufacturers. However, there are important questions still to be answered. How does one determine if a given individual will experience a severe reaction? Will a particular patient lose his sensitivity over a short time? Are the reactions to multiple venoms commonly observed indicative of cross-reactivity or of multiple reactivity? Should one treat the patient with negative or equivocal skin test (or RAST)? Is the skin test negative patient with a convincing history a candidate for treatment? What is the relation of large local reactions (angioedema contiguous with the sting site) to systemic reactions? Should all systemic reactions be treated? Should treatment be stopped? Perhaps these and other questions can be answered in the next few years.

Honey bees, several species of yellow jackets, yellow hornets, white faced hornets and several species of paper wasp are common in North Carolina and all cause

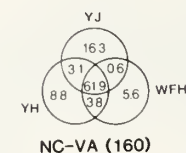
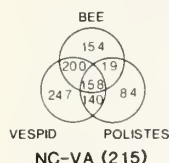
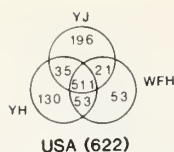
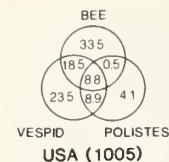


Figure 3. Distribution of allergic reactivity to stinging insect venoms in the United States and in North Carolina and Virginia.²⁰ The numbers in the Venn diagrams are percent reactivity to that venom or combination of venoms.

venom allergy. Four are shown in Figure 2. The distribution of reactivity to the five venoms for 215 venom allergic patients is shown in Figure 3.²⁰ There is less honey bee venom reactivity and more *Polistes* venom reactivity in North Carolina than in most areas of the United

States. Another important stinging insect in our southeastern counties is the imported fire ant of the genus *Solenopsis*. The venom of this hymenopteran consists mainly of water insoluble alkaloids but also contains traces of at least three highly allergenic proteins.²¹ This insect is not found in the northern or western parts of North Carolina, but is a significant cause of allergic reactions where it is found. Each year two to three people die from insect venom anaphylaxis in North Carolina.

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SPECIAL ARTICLE

Message of the President to the House of Delegates

M. Frank Sohmer, Jr., M.D.
May 7, 1981

IT has been a distinct honor and pleasure for me to serve as your president since this House of Delegates last convened here in May, 1980.

Three years ago, Dr. Estes pointed out in his address to you here "one day the job begins." He failed to mention it begins with a loud consuming "BANG." The housekeeping tasks are significant, i.e. appointing 40 plus committees, their meetings, the monthly newsletters, etc. While demanding, time consuming and at times frustrating, it has been a very worthwhile experience to be allowed to represent you and the membership. I thank you again for the opportunity and honor.

I am pleased to report to you that I believe the North Carolina Medical Society to be hale and hearty.

The membership of your society in April, 1981, was 5,701; an increase of 282 members since April, 1980. The North Carolina AMA membership in April, 1981, was 4,392, an increase of 181 members over April, 1980. The North Caro-

lina Medical Society membership on January 1, 1981, was 5,745, only 75 new North Carolina Medical Society members in 1980. It is I think of interest to note AMA membership rose to 4,420; a net gain of North Carolina AMA members of 109 in 1980.

At the National AMA Leadership Conference, North Carolina Medical Society was one of five states to receive a plaque to recognize increased AMA membership for the 8th consecutive year.

The Board of Medical Examiners has reported licensing 966 physicians in essentially the same time, not including 491 residents training licenses. If we assume one-half of these newly licensed physicians began practice in North Carolina, (483 physicians), the net gain of 75 new members would suggest we are at a crucial time for membership. I hope our new leadership, this House of Delegates, the Executive Council and especially the Council of Review and Development will devote their attention to this important area. I encourage all of you to invite the non-member physicians in your community to join with organized medicine locally, in our state and nationally in order to grow in numbers and strength to

represent and preserve the profession.

The three-year continuing medical education (CME) cycle which ended December, 1980, lists the most members to date, 3,407, 191 members have not completed their reporting; of these 70 have submitted partial reports. I must make you aware that of the 5,701 North Carolina Medical Society members in April '81, 119 have paid and are counted but have not completed their CME requirements for membership. The Executive Council, in April, deferred action until May 31 on the suspension of these members. This is to allow the House of Delegates to consider resolution #10 on the subject of CME.

Under the able leadership of your finance chairman, Dr. Ernest Spangler, the financial status of the society is good. Income was \$1,029,000 with expenditures of \$977,000.

The 1981 Annual Budget (Report B) is in your packet. This, as well as the recommendations of the Finance Committee as approved by the Executive Council (Report 1), will be discussed in Reference Committee I. There is no recommendation for a dues increase this year.

Given before the House of Delegates, North Carolina Medical Society, Pinehurst, N.C., May 7, 1981.

Your Executive Council has met five times this year; September, February, April and last night and a conference call in September. As a result of the conference call, I gave testimony to the Prepaid Health Plans Commission reaffirming to the Commission the North Carolina Medical Society's opposition to government funding of Association Health Maintenance Organizations (HMOs) and Independent Procedure (IPAs). To date neither Governor Hunt nor the Legislature has acted on the Commission Report.

Some additional actions of the Council, acting on your behalf in the interim, follow:

1. (Report A) Dispense with verbatim council minutes, summarizing with introductory information, motions and actions being recorded. This action was reaffirmed at the April Council meeting. This Report, as well as Resolutions 3 and 9, on this subject, will be discussed in Reference Committee I.

2. Approved the employment of the management consulting firm Booz, Allen & Hamilton of Atlanta to study the operations of the North Carolina Medical Society.

3. Approved the Annual Convention Committee's tentative reservation in Charlotte for the 1983 Annual Meeting.

4. Approved continuing the North Carolina Medical Society sponsored jail project through 1981, although AMA support funds will expire after May.

5. Directed documentation of the Administrative Code for the Medical Society Operation. This ad hoc committee, chaired by your Vice President, Tom Marshburn, is hard at work.

Other actions are indicated in the lettered Reports and Executive Council Summaries in your packet. I would specifically request and urge all of you to read the three summaries of Executive Council meetings, as well as the Compilation of Annual Reports.

The Communications Committee, under the able leadership of Dr. Elizabeth Kanof, has been very active this year. The Leadership Conference in February was an example of this committee's excellent

work. Please plan to attend the 1982 Leadership Conference in Winston-Salem in February.

I cannot in any reasonable fashion in the time allowed report to you on all the outstanding and excellent work of the hardworking and dedicated committee chairmen and their committee members. Any attempt to single out specific committees, outstanding chairmen, the accomplishments, the efforts and work would be very unfair unless time permitted individual consideration. Time does not permit so I say a great BIG thank you!

Please do take the time to read the compilation and recognize that this is only a brief summary. The headquarters' staff does an outstanding job in supporting all of these functions.

Your AMA Delegation continues to represent us very well at the AMA House of Delegates. It is with the deepest regret that I must make you aware that the Chairman and Dean of the Delegation, Dr. David Welton, who has served this Society so well and long, will not stand for re-election as a delegate this year. I am sure you support me when I express our deepest appreciation to Dave for a job better than well done. We wish him good health and every happiness in the years to come.

We continue to have excellent input with the AMA with your past President and Delegate, Dr. John Glasson, serving as Chairman of the Council on Medical Services and Dr. Eben Alexander, serving on Council of Medical Education. I am pleased to report that Dr. Jim Davis will be a candidate for the Vice Speaker of the AMA House of Delegates in June. Dr. Harvey Estes will be a candidate for the Council on Scientific Affairs. We wish them both success in their candidacies.

I would like to spend a few minutes on legislative matters. Particularly to express my deep admiration and appreciation to our very dedicated Legislative Committee chairman, Dr. John Dees who has done an outstanding job!

Dr. Dees has been aided and supported ably by our Legislative staff members, Tom Adams and John

Anderson, legal counsel and his associates.

Over 450 key contact physicians and auxiliary members have combined their efforts to create a very effective force in behalf of the citizens of North Carolina and the profession. We extend our appreciation to all concerned. A number of physicians have upon request attended legislative hearings and given testimony in your behalf in Raleigh. Thanks to each of you for your most able assistance on such short notice.

Some of the pending legislative issues that have been handled in this manner follow:

1. A new Chiropractic Bill, similar to the 1979 proposal, to define chiropractors as primary care providers, etc.

2. Podiatry and Hospital Staff privileges.

3. Licensing of midwives and home deliveries.

4. Rewriting of the Pharmacy Act.

5. Rewriting of the Nurse Practice Act.

6. Repeal of the previous legislative relief in professional liability area.

7. The revision of the Board of Medical Examiners.

8. Rate Setting Commission for hospitals.

9. Mandatory reporting to parents of minors obtaining abortions.

10. Generic drug substitution.

Several other issues are covered in Report 7. The activities of Dr. John Dees, his committee and the many individuals in supporting roles, utilizing the incoming WATS line, the weekly Legislative update letter, the Legislative alerts, the key contact physicians and auxiliary members have been very pleasing to me so believe me when I say very valuable to you *also*.

In closing, I wish to thank the six Commissioners, my fellow officers and members of the Council for their help and support this year. Without them, the year would have been a disaster.

Finally, I want to express my appreciation to Mr. William Hilliard and our Headquarters staff for their excellent support to the Society this year.

SPECIAL ARTICLE

Annual Address of the President

M. Frank Sohmer, Jr., M.D.

May 9, 1981

WHEN I had the honor of assuming the office of President of the North Carolina Medical Society one year ago, I spoke to you briefly on the subject of social consciousness. At that time, I stated that our first duty and responsibility was as a citizen in this great country of ours. That charge I would repeat to you this morning. In my year as your President, I am convinced that admonition was and still is correct! However, I have observed that a significant number of our fellow citizens have exhibited little or no interest in good government unless their particular ox is being gored. Despite this, an encouraging number of physicians responded to requests to participate in the Medical Society activities and legislative endeavors.

I had felt as the year proceeded that I would share with you my further thoughts on our responsibility as citizens and I feel a greater urgency to talk with you today on our responsibility to our patients and as citizens.

My feelings are better expressed in the first aphorism of Hippocrates which reminds us: "Life is short, and the Art long; the occasion fleeting; experience fallacious and judgment difficult. The physician must not only be prepared to do

what is right himself, but also to seek the cooperation of the patient." As the year has progressed, I have seen and had expressed to me a deplorable deficiency in practicing the Art of Medicine.

I have perceived an apathy that bodes ill for the future.

This apathy or lack of interest seems even to have pervaded our profession in patient/physician relationships. I see patients each week who cannot remember the name of the last physician who provided care the week before nor who performed the surgery in the past or for what. The ability to communicate with the public and to our patients is being lost. I have to believe then some of the Art of Medicine has been lost. Technically, great and wonderful things have occurred in my medical life of some 30 years, i.e. renal transplants, coronary bypass, computerized tomographic scans, etc. Is there evidence that these advancements have lengthened life expectancy? Have they been cost effective? Yes, it would appear we seem able to provide quicker more astute diagnoses and effective treatment, but at what cost to us and the public? I am concerned with the profession becoming more technologically dependent and increasingly less communicative and responsive to the patient. As I reflect upon my good fortune and personal exposure in the past years to skilled clinicians, i.e. Wingate Johnson and David Cayer at Bow-

man Gray, Julian Ruffin and Gene Stead at Duke, I remain in awe of their Art in Medicine. They accepted and advanced the technical aspects of medicine, but never lost their ability to treat the patient as an individual.

Again, to quote from "*The Genuine Works of Hippocrates*," and from his Book of Prognostics: "It appears to me a most excellent thing for the physicians to cultivate Prognosis; for by foreseeing and foretelling, in the presence of the sick, the past and the future, and explaining the commissions which patients have been guilty of, he will be more readily believed to be acquainted with the circumstances of the sick so that men will have confidence to entrust themselves to such a physician."

In our profession, the ability to listen continues to be of the greatest single value. In addition, the best physicians take time to then talk to the patient and involve the patient in his health management. The individual is responsible for his health. We, the professionals, must remember that we are not responsible for individual's health, but rather are consultants to the public in their health maintenance.

I submit to you, however, the final determination of the future of our fine health care system and our learned profession will be made by our patients. If we practice the art, communicate and are the friends of our patients and do not allow apathy

to replace genuine caring, then we will have nothing to fear from the bureaucrats, Kennedy types, labor leaders and others of their ilk, who would destroy the profession and the health care system.

We concern ourselves with the recent advent of government funded HMOs. Actually, in 1705 in Boston, a physician established a prepaid health care plan rendering care for five pounds a year. Fee schedules are not new. In 1744, in the North Carolina House of Burgesses, a physician introduced a fee schedule. The "new" prepaid plan IPAs were present in this country as early as 1798. When ships' captains entered U.S. ports, they paid 50¢ per crew member for health care while in port. From this meager beginning, the U.S. Public Health Service emerged. Railroads utilized contracted physicians along their lines in opening the West, another example of IPAs.

It would appear that the intent of President Reagan's administration may be to remove the Federal government from the health planning arena. We must be prepared to fill

this vacuum and provide leadership for voluntary local health planning.

PSRO is another program that may not survive in the present climate. Again, we must prepare to respond voluntarily on a local level to the need for peer review and accountability. We have the responsibility to assure the public that their faith and trust in the medical profession is correct and that we treasure this most highly.

In the past decades, we have provided excellent service and care to the sick. We must increasingly now concern ourselves with more than sickness care. We must provide health care, which is a much broader and most important responsibility. As the infectious diseases are being eradicated, our efforts have turned to the chronic and degenerative diseases. Causes of these diseases are much broader than the single viral or bacterial agents causing the infectious diseases. The disabling and fatal chronic diseases have a multifaceted basis: genetics or biological factors, as well as complex social factors of poverty, education, envi-

ronment and personal life styles, i.e. tobacco, alcohol, drugs, stress and exercise.

We have the opportunity to fill necessary and important roles as citizens and physicians. We are better able because of special education and acquired experience to influence the evolution that must occur in our society in this decade.

Genuine care for those sick, concern to help maintain the health of those well, leadership in the legislative and social arenas to help direct our society with total integrity and not self interest or self aggrandizement will, as stated earlier, result in what will be best for all of us and our fellow citizens. Do this with the dedication of our forebears in medicine so that we may leave to subsequent generations of physicians the same wonderful opportunities to serve as we have enjoyed. *It is up to us.* We have the opportunity and we must embrace it. We must be more positive and assertive in our role as custodians of the health of our fellow citizens and as citizens in our great country. *We must not forfeit our heritage.*

Special Article

Attachment of a Physician's Assistant To an English General Practice

B. L. E. C. Reedy, T. I. Stewart, J. B. Quick

SUMMARY AND CONCLUSIONS

A final-year student from the physician's associate programme at Duke University in North Carolina, USA, worked in an English health centre for eight weeks between May and July. He managed 221 cases under supervision, and they were typical in terms of sex ratio, diagnosis, and the preponderance of children. Current social and economic trends in Britain suggest that selective under-doctoring, especially in inner urban areas, may become acute, and a type of physician's assistant specially selected and trained for the work in areas with serious and unusual problems should be considered as among the possible, even desirable, solutions.

INTRODUCTION

IN an attempt to reverse the decline of general practice in America, Duke University started in 1965 to train assistants for primary care physicians in the rural areas of North Carolina. Other medical schools followed, and by 1974 the American Medical Association

had accredited 48 training programmes from which some 1200 "physician's assistants" were practising in 36 States.¹ After graduation these assistants are employed and supervised by a physician. In each State they must be licensed or certified to practice and their autonomy is legally circumscribed.

In Britain there is no comparable problem in the distribution of general practitioners and no explicit call for a doctor's assistant. Indeed, the idea of a physician's assistant on American lines is resisted by the BMA². Nevertheless, there is a debate about medical manpower, including the development of "extended roles" and the contribution of other health professionals to the medical problems of inner city areas.^{3,4} It seemed opportune when a final-year student at Duke University asked to spend his family practice elective in an English general practice, and an attachment was arranged with the partners in the health centre at Sonning Common, one of whom (TIS) acted as his precepting physician.

At Duke University students receive two years' training in basic and clinical science, including history-taking, physical examination and practical procedures. A problem-solving approach using the subjective, objective assessment and plan (SOAP) system enables

them on graduation to "... assume many of the diagnostic, therapeutic, and administrative responsibilities traditionally performed only by the physician ... to integrate and interpret findings on the basis of general medical knowledge, and to exercise a degree of independent judgment."⁵

All prospective physician's assistants must have had one year's health-related experience before training, and this student had worked as a hospital emergency technician for two years with six months in a public health department. As a former mountaineering instructor he had also had experience in triage and medical care and had worked in two family practices in America. This experience and training was relevant to his work in an English health centre practice.

METHOD

We found no record of any working visit by a physician's assistant to Britain, and we sought advice about the legal and ethical issues. The General Medical Council was concerned about "covering" and stipulated that the patients must understand that the physician's assistant was not a registered medical practitioner. The Medical Protection Society warned that no procedure should be delegated until the doctors were satisfied that he was competent to perform it. The hos-

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pital liability insurance of Duke University covered him against litigation while in Britain.

The health centre staff were briefed beforehand, and a notice was displayed for the patients but those who saw him also received a written explanation. While working he wore his own uniform and pocket badge to fulfil the requirements of the General Medical Council about his identification. After a week in the practice his capability was assessed by the staff for his preceptor to gauge his competence for the work envisaged. He subsequently recorded data about the patients he saw by himself, and one of us (BLR) interviewed him and the staff about their reactions.

RESULTS

The physician's assistant spent eight weeks in the practice between May and July and saw patients on 35 weekdays. During the first nine working days he made himself familiar with the staff and procedures of the health centre. He also visited the offices of the area health authority, the family practitioner committee, and the social services department and accompanied the district nurse and health visitor. After assessment he was treated as a trainee general practitioner, with the use of a consulting room and all facilities including the appointment system.

During the next 26 days, he held 267 consultations (10.3 a day on average) with 221 patients. Of these, 188 (85%) attended only once, but the remaining 33 provided a total of 79 consultations. Thus there were 46 repeat consultations, forming 17% of his overall total. This proportion did not differ significantly from week to week. Twenty-seven (10%) of all his consultations were with 16 patients in their own homes (or in one case in the community hospital), although some of them also attended at the health centre. Thus his ratio of surgery attendances to visits was 8.9:1.0 compared with the significantly higher rate of 17.7:1.0 for the practice as a whole during the same period ($p < 0.01$). In addition he worked in the health centre's diabetic, infant

welfare, and obstetric clinics and shared the work of the treatment room nurse.

The assistant saw more female than male patients (57%) and 59% of his patients were aged between 15 and 64 years. The proportion of children under 15 (32%) was as expected, significantly higher than their proportion (22%) in the population of England in 1978.⁶ There was a secular trend whereby the proportion of children that he saw increased and the proportion of patients aged 65 or over diminished during his attachment.

The table shows that the primary diagnoses recorded by the physician's assistant were broadly similar to those recorded nationally.⁷ After every consultation (excepting 13 for minor procedures) his preceptor routinely reviewed the clinical record, discussed the findings and plan, and signed the prescriptions. The physician's assistant actively sought advice about diagnosis or management in only 26% of cases but more detailed case discussion followed each consulting session, and there was a weekly random case review. Further monitoring was provided by the preceptor's partners and by feedback from patients and staff. Overall, these controls added about 15 minutes to each of the preceptor's consulting sessions

and about two hours at the end of each week.

Data from the recorded semi-structured interviews showed that his acceptability to the staff depended on the extent of their preparedness. A treatment room nurse who had missed the initial briefing said she began by feeling insecure and hostile to him, whereas a district nurse who had worked with medical assistants abroad accepted him without difficulty. The staff were impressed by his clinical ability after only two years' training, and his probationary period was reduced from four weeks to two because of this. He was judged to be more confident and competent than most attached medical students and some trainee general practitioners, particularly in practical procedures, and less stereotyped by hospital attitudes. He was popular with patients and particularly with children, some of whom believed that they were seeing a real cowboy!

Having themselves helped to develop the extended role for community nurses in Britain,⁸ the general practitioners agreed that their experience with the physician's assistant showed that casual training for treatment room and first-contact work was insufficient. Practice nurses should have a formal training that included the theory of scientific

Primary diagnoses of patients seen by the physician's assistant

| Diseases | International classification | Episodes | | Second national morbidity survey ⁷ |
|---|------------------------------|----------|----------|---|
| | | No | % | |
| Respiratory system | 460-519 | 27 | 29 | 22 |
| Hay fever/allergic rhinitis | 407 | 38 | | |
| Skin and subcutaneous tissues | 680-709 | 23 | 10 | 8 |
| Musculoskeletal and connective tissues | 712-739 | 17 | 8 | 6 |
| Genitourinary system | 580-629 | 16 | 7 | 5 |
| Ear | 380-387 | 13 | 6 | 4 |
| Infective and parasitic | 008-136 | 12 | 5 | 4 |
| Digestive system | 520-578 | 10 | 5 | 4 |
| Circulatory system | 390-458 | 8 | 4 | 5 |
| Accidents, poisoning, and violence | N802-994 | 7 | 3 | 6 |
| Pregnancy, childbirth, and puerperium | { Y60-62 631-678 } | { 6 } | { 3 } | { 9 } |
| Mental disorders, central nervous system, and eye | 294-378 | 5 | 2 | 12 |
| Neoplasms | 151-239 | 4 | 2 | 1 |
| Endocrine, nutritional and metabolism | 240-279 | 1 | < 1 | 2 |
| Physical symptoms and signs | 780- | 10 | 5 | 10 |
| Miscellaneous conditions | Y00-99 (except Y60-62) | 24 | 11 | 2 |
| Totals | | 221 | 101 | 100 |

and technical aspects of the work, such as chemical pathology and electrocardiography, as well as practical medical skills. This work also requires a reliable system for delegation and supervision. But despite their experience with this assistant, both general practitioners and nurses were doubtful whether the American type of physician's assistant was appropriate for general use in Britain. Although general practitioners were sometimes overworked, the creation of a new type of health worker did not seem justified, except in our urban ghettos where the local use of medical assistants other than nurses might enable a primary care service to survive.

The physician's assistant said that his prevocational work in emergency rooms had taught him to deal with minor conditions, and by watching the doctors he learned how to approach patients and became familiar with physical examination routines. He extolled this experience and said: "... you know something about what medicine is. I think that makes a tremendous difference; and the age too — the students that you have here are five years younger than I am so far as dealing with patients is concerned ... we all started at a low level and had a view of what we were getting into. Certainly it is true of [American] medical students that I know that they don't know what they are getting into."

He thought the clinical experience in this elective was similar to that of family practice in America but envied our district nursing service and facilities for monitoring and recall in immunisation and cervical screening. He observed that our treatment room nurses appeared to do much more than the "office nurse" in America — indeed, more than most American nurses outside special treatment units. Commenting on the collaboration between the health centre staff he said that interest in this was growing among American physicians, despite their tradition of isolation in this respect. Asked what he had gained from his attachment, he replied: "Certainly it is right in line

with what I had hoped for — that is, common problems with enough things thrown in that are serious or unusual and require more thorough investigation. I want to be very comfortable in dealing with the common problems, and I want to learn about handling problems that are very acute. I have gotten that feeling here — the majority have been common things which I feel I can pretty well handle myself."

DISCUSSION

We believe that this is the first time that an American physician's assistant has worked at any stage of his career in an English general practice. Given appropriate safeguards, there were no legal or professional barriers to the attachment, but its success depended particularly on the initial briefing for the staff, his preliminary assessment by the whole practice, and the information given to prepare the patients.

His cases were typical in terms of sex ratio, diagnosis, and the preponderance of children. A daily average of 10.3 consultations, with attendance at clinics, must represent an acceptable amount of educational experience, and the proportion of patients he saw at home was similar to that recorded both by Howie⁹ and by Marsh *et al.*¹⁰ He dealt with common acute problems rather than the routine examinations that figure largely in American practice,¹⁰ and in the circumstances this was the most relevant experience. His preceptor and the other staff were satisfied that the information he collected and his assessments of patients were accurate, relevant, stood up to scrutiny, and enabled management plans to be discussed and implemented. Despite his relative inexperience, he identified and handled at least one patient's major emotional and social problem with skill and tact.

The responses of the nurses and health visitor towards him emphasized the essential difference between two worldwide stereotypes — the physician's assistant and the nurse practitioner.¹ Regardless of his gender, all the nurses saw him as a type of physician, not a

type of nurse. The treatment room nurse, however, recognized that her work and role most resembled his, thus reinforcing a suggestion that these nurses differ in type from other nurses and might be said to be the "feldshers" of British general practice.¹¹

We were convinced that his confidence and maturity and his ability to relate to the members of the health centre team as well as patients owed much to his prevocational experience. Perhaps the formation of community health care teams in Britain could be enhanced by a similar initiative among embryo doctors and nurses, and a controlled experiment should be carried out in nursing and medical schools. Moreover, clearly nurses who undertake medical activities in British general practice must have the generic skills for collecting medical data from patients and be trained in a level of differential diagnosis that at least enables them to make an informed "triage" decision.¹²

The attachment also convinced us that it would be possible in Britain to train an auxiliary physician to handle considerable proportion of the more straightforward cases in primary care. At present it seems unlikely that auxiliaries of this kind would be needed as the result of a shortage of doctors, but it is barely a decade since the Americans were compelled to adopt this as one solution to the problem of selective under-doctoring affecting their inner urban areas, among others. Current social and economic trends in Britain suggest that the same problem may become acute here as well, and a type of physician's assistant specially selected and trained for work in areas with serious and unusual problems should be considered as among the possible, even desirable, solutions.

We thank Dr. Michael Hamilton, director of the physician's associate program at Duke University Medical Center, for his collaboration and the Royal College of General Practitioners and the Wellcome Foundation in North Carolina for their supporting grants. We are also grateful to Dr. P. M. R. Hemphill, Dr. J. C. Hasler, and Dr. Helen McEwen, together with the nurses, health visitors, and administrative staff of the Sonning Common health centre for their support and interest in the attachment.

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Are Your Patients Speeding?

Amphetamine abuse appears to be a somewhat less serious problem in the 1980s than it was in the 1970s. The Food and Drug Administration is attempting to decrease the manufacturing of amphetamines. Meanwhile, cocaine seems to have become the sophisticated and more expensive drug for getting "high." When we seem to be winning a battle in medicine, another appears to replace it. Another nemesis is phenylpropanolamine (PPA).

Whereas amphetamines and cocaine, both legally and illegally, are somewhat of a bother to obtain, phenylpropanolamine is easily available over the counter. This drug, a synthetic sympathomimetic agent with pharmacologic actions similar to ephedrine and amphetamine, is a major ingredient of over-the-counter "cold remedies" and appetite suppressants. There is very little evidence that PPA provides sustained suppression of appetite and its value in nasal decongestants or cough medicines is quite questionable.

Some of your patients can accidentally get into medical trouble with this drug, others on purpose. Head shops are selling "poor man's cocaine" — Pseudocaine," "Coco Snow," "Real Caine" and "Rock Crystal" — composed of ephedrine, PPA and procaine. Recently it has been reported that PPA can cause such sympathomimetic effects as severe hypertension, hypertensive crises or even renal failure. Such hypertensive responses have been reported after single doses of PPA in previously normotensive subjects. Long term ingestion can produce headache, palpitations, dizziness, weight loss, dysphoria and agitation. Acute side effects, even with recommended dosage, can also include tremor, restlessness, agitation, increased motor activity and hallucinations. An acute response to overdose can mimic amphetamine-psy-

chosis with agitation, delirium, hallucinations, panic states and confusion. Of particular interest are recent reports that phenylpropanolamine can not only increase blood pressure when taken alone, but also when combined with beta-adrenergic blockers, methyl dopa or MAO inhibitors. Even more recently a patient presented in hypertensive crisis from the use of PPA and indomethacin. Apparently indomethacin and other drugs which inhibit prostaglandin synthesis can reduce the prostaglandin synthesis and induce severe vasoconstriction and hypertension.

Treatment of severe reactions to phenylpropanolamine include phentolamine (Regitine) for an acute hypertensive episode and diazepam for the CNS effects in adults (in pediatric patients chlorpromazine may be preferred).

Consider phenylpropanolamine toxicity in (1) patients who become acutely hypertensive and previously were normotensive (2) patients with acute CNS stimulation including psychosis (3) preschool children with sudden onset of tremors, anxiety, hypertension and hallucinations (4) high school or college students before exams (is now replacing "white cross," "black beauties" or "black cadillacs" for this purpose) (5) some "hyperactive" children.

Because this drug is so easily available, it would be well to record its use in your data base.

Ronald B. Mack, M.D.
Department of Pediatrics
Bowman Gray School of Medicine
of Wake Forest University
Winston-Salem, N.C., and
Chairman, Committee on Accidents
and Poison Prevention
North Carolina Chapter of the
American Academy of Pediatrics

Editorials

SUGGESTIONS FOR AUTHORS

The NORTH CAROLINA MEDICAL JOURNAL welcomes the contribution of original articles — scientific, historic and editorial — provided that they have neither been published previously nor have they been simultaneously submitted for publication in other medical periodicals. Papers concerned with all aspects of the practice of medicine in North Carolina are particularly solicited.

In addition, in view of "The Copyright Revision Act of 1976," effective Jan. 1, 1979, letters of transmission to the editor should contain the following language: "In consideration of the North Carolina Medical Society's taking action in reviewing and editing my submission, the author(s) undersigned hereby transfers, assigns, or otherwise conveys all copyright ownership to the North Carolina Medical Society in the event that such work is published in the NORTH CAROLINA MEDICAL JOURNAL." We regret that transmittal letters not containing the foregoing language signed by "all" authors of the submission will necessitate delay in review of the manuscript.

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On a separate sheet, a double-spaced abstract of not more than 150 words should be submitted in duplicate. This should be factual telling of what was done, what was observed and what was concluded. A separate summary should not be provided.

Abbreviations and Symbols

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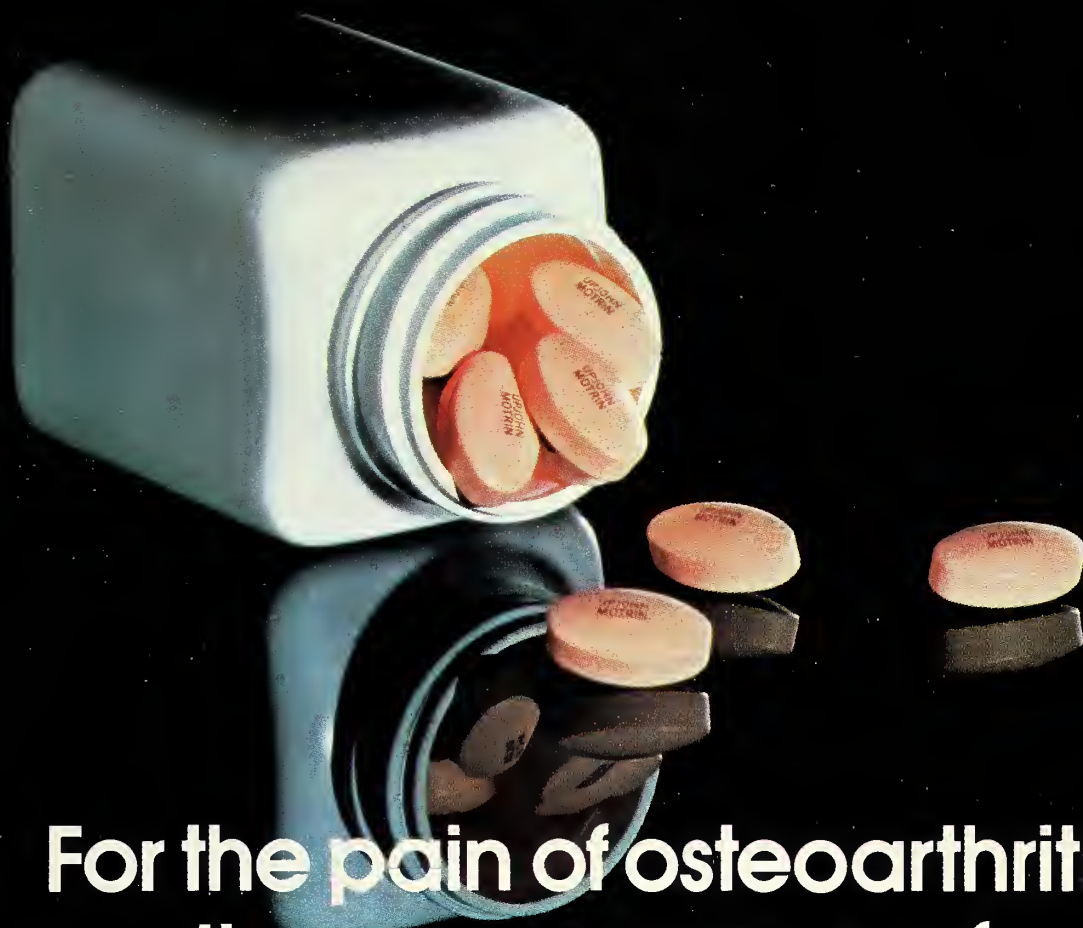
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1. Villant GE, Sobowale NC, McArthur C: Some psychologic vulnerabilities of physicians. *N Engl J Med* 287:372-375, 1972.
2. Fox RC: *The Student-Physician: Introductory Studies in the Sociology of Medical Education*. Edited by Merton RK. Cambridge, Harvard University Press, 1957, pp. 207-241.
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Gastrointestinal: Nausea*, epigastric pain*, heartburn*, diarrhea, abdominal distress, nausea and vomiting, indigestion, constipation, abdominal cramps or pain, fullness of GI tract (bloating and flatulence); **Central Nervous System:** Dizziness*, headache, nervousness; **Dermatologic:** Rash* (including maculopapular type), pruritus; **Special Senses:** Tinnitus; **Metabolic/Endocrine:** Decreased appetite; **Cardiovascular:** Edema, fluid retention (generally responds promptly to drug discontinuation; see PRECAUTIONS).

*Incidence Less Than 1%—Probable Causal Relationship***

Gastrointestinal: Gastric or duodenal ulcer with bleeding and/or perforation, gastrointestinal hemorrhage, melena, gastritis, hepatitis, jaundice, abnormal liver function tests; **Central Nervous System:** Depression, insomnia, confusion, emotional lability, somnolence, aseptic meningitis with fever and coma; **Dermatologic:** Vesiculobullous eruptions, urticaria, erythema multiforme, Stevens-Johnson syndrome, alopecia; **Special Senses:** Hearing loss, amblyopia (blurred and/or diminished vision, scotomata, and/or changes in color vision) (see PRECAUTIONS); **Hematologic:** Neutropenia, agranulocytosis, aplastic anemia, hemolytic anemia (sometimes Coombs' positive), thrombocytopenia with or without purpura, eosinophilia, decreases in hemoglobin and hematocrit; **Cardiovascular:** Congestive heart failure in patients with marginal cardiac function, elevated blood pressure, palpitations; **Allergic:** Syndrome of abdominal pain, fever, chills, nausea and vomiting, anaphylaxis, bronchospasm (see CONTRAINDICATIONS); **Renal:** Acute renal failure in patients with preexisting, significantly impaired renal function, decreased creatinine clearance, polyuria, azotemia, cystitis, hematuria, **Miscellaneous:** Dry eyes and mouth, gingival ulcer, rhinitis.

*Incidence Less Than 1%—Causal Relationship Unknown***

Gastrointestinal: Pancreatitis; **Central Nervous System:** Paresthesias, hallucinations, dream abnormalities, pseudotumor cerebri; **Dermatologic:** Toxic epidermal necrolysis, photoallergic skin reactions; **Special Senses:** Conjunctivitis, diplopia, optic neuritis; **Hematologic:** Bleeding episodes (e.g., epistaxis, menorrhagia); **Metabolic/Endocrine:** Gynecomastia, hypoglycemic reaction; **Cardiovascular:** Arrhythmia (sinus tachycardia, sinus bradycardia); **Allergic:** Serum sickness, lupus erythematosus syndrome, Henoch-Schönlein vasculitis; **Renal:** Renal papillary necrosis.

* Reactions occurring in 3% to 9% of patients treated with *Motrin*. (Those reactions occurring in less than 3% of the patients are unmarked.)

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WHY PHYSICIAN'S ASSISTANTS?

The article by Reedy, Stewart and Quick reprinted in this issue of the NORTH CAROLINA MEDICAL JOURNAL describing the experience of Mr. Quick, a second-year physician's associate (PA) student at Duke Medical Center during his preceptorship in a family practice in England, provokes these thoughts about physician's assistants, physicians and the needs of patients.

The physician's assistant concept is now over 15 years old. Its roots belong firmly in North Carolina. Born out of the vision of one man, Dr. Eugene Stead of Duke University, the program received early support from the North Carolina Medical Society which played an instrumental role in helping to define the evolving relationship between the physician and this new health profession. This has become a collaborative one in which the physician assumes medical and legal supervisory responsibility for the care provided by the PA. The North Carolina laws and regulations defining this association have become models for other states as their physicians began to employ physician's assistants. At every organizational level, physician's assistants have reaffirmed their support for the principle that the physician's assistant's role is a dependent one vis-a-vis the physician and that independent licensure for the physician's assistant does not serve the best interests of patients or physician's assistants.

With the experience of the last 15 years and as a result of numerous studies including the one reprinted

in this issue of the *Journal*, it is clear that the education of physician's assistants prepares them to effectively provide quality health care for commonly occurring medical and surgical problems.¹⁻³ Studies also show that physician's assistants are well accepted by their patients and the physicians who employ them,^{4,5} and that they are productive and cost effective when utilized properly.^{6,7} The recent Graduate Medical Education and National Advisory Committee (GMENAC) report recognizes these findings and recommends that training of physician's assistants be maintained at current levels despite projected physician surpluses.

Originally, the PA concept was implemented in order to ease health manpower shortages in rural primary care. We have since seen that physician's assistants can help to bring needed care to people in many more medical settings. Thus, PAs are working in nursing homes, in subspecialty practices, in prison health care systems and in emergency rooms. Because of the decline in the number of foreign medical graduates entering this country, a new role has emerged — community hospitals and their physicians are turning to physician's assistants to provide continuous coverage of inpatients and to facilitate coordination between attending physicians and the hospital services provided to their patients.

It is still early in the history of this profession so it cannot be predicted with sureness how it will ultimately develop. Yet, in 15 years, it has become clear that a physician working with a physician's assistant can increase the productivity of practice and also maintain or increase the quality and number of services provided. When medicine is being asked to provide quality health care services at a reasonable cost to the consumer, it makes a great deal of sense that physicians should regard PAs as valuable and efficient members of the health care team.

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"Doctor,
did you mean
what you said?"

By: Karen A. Zupko
Director, AMA
Department of Practice Management

Do you want your telephone to ring off the hook? Do you want more money in accounts receivable than you have in the bank? How about running at least two hours behind schedule every Monday?

We know three phrases that are guaranteed to produce these nightmarish results. They are:

"Just give me a call and let me know how you feel."

"Don't worry about the bill."

"Come in and see me on Monday."

Chances are these three phrases are familiar to you — maybe you've even used them. But perhaps you didn't realize the kind of trouble that these phrases can cause in your office. "What kind of trouble?" you ask. Well, let's take a look at the difference between what was meant, what was said, and what effect the comments listed above had on patients and your office.

One physician we talked with said that when he started practice, he'd close each exam by saying, "Just give me a call and let me know how you feel." And most patients did just that. "Well," he recalls, "that was fine when I was starting out and only seeing about 10 patients a day. But as my practice grew so did the number of patient callers. It got to the point where I was making nearly 25 callbacks a day, only to hear that the medicine or treatment regimen was working just fine." In his case, his nurse finally noticed the pattern and called it to his attention. Happily, he's reformed and has found other ways to end a patient's visit and leave the exam room. He's also implemented better telephone protocols and screening techniques at the reception desk.

The result is that needless callbacks have been reduced. Substitute phrases that he now uses to close an exam include: "If you still have pain in two

days, call me," or "If you don't feel better in a week, call and make another appointment." In both examples, the patient instruction is more specific.

"Don't worry about the bill," is another lulu and it usually works like this. You've just seen Patty Patient and she looks up at you and says, "Ah, this treatment will probably mean a big bill and frankly . . ." Before Ms. Patient can finish you ease toward the exam room door and say, "Don't worry about the bill — just get well," as you escape into the hall.

You should realize that this is an instruction most patients will follow to the letter — in fact it may be the *only* instruction they follow. And it is this phrase that will ring in your ears as you look over your growing accounts receivable. Not only has Ms. Patient not worried about the bill, she hasn't even begun to pay it. If discussing money with patients makes you uneasy, and it shouldn't by the way, have your staff help you. For instance, instead of "Don't worry about the bill," why not try, "Please see Betty Bookkeeper, she'll make arrangements for you," or something like that.

If you really and truly don't want Ms. Patient to worry about paying you and you stand ready to forgive the amount due be sure you communicate this to your staff. Unaware of the arrangement you've made with Ms. Patient, they may be sending out dunning letters or asking for payment at the front desk, all which make Ms. Patient feel like you've gone back on your word.

Now let's look at the last phrase. A friend of mine tells me that whenever he wants a "squeeze-me-in" appointment with his physician, he calls him at *home on Sunday*. "Without fail," he smiles, "the doctor says for me to come in and see him on Monday." And, he points out that the doctor is a soft touch compared to the medical assistant in his office.

Watch out for patients like my friend. Many times patients like him truly aren't feeling well, and while they don't need an emergency room visit, a prescription, or a house call they do want and/or need

something from you. The key question to ask yourself is: "Do they need an appointment on Monday?" Often times patients like my friend, have simply neglected to follow the routine of calling to set aside some time for a visit for their non-urgent problem. And do consider the results. . .

A crowd gathers on Monday morning in your exam room that is so large it rivals 5th Avenue on the day of the Easter parade. Then, the following scenario is played.

A patient stands at the reception desk and your medical assistant scans the appointment book and says, "Ah, but I don't have an appointment for you." The patients who did call ahead and who do have appointments are now glaring. The patient at the reception desk, well he or she rises to their full dignity and replies: "But, the *doctor* told me. . . ." The receptionist is now effectively undermined and

you — well you are going to be running behind all day.

The solution? Try what an established Illinois physician with a busy practice does. He tells patients, "Please be sure to call my office first thing on Monday and tell the medical assistant that I want to see you." And, don't stop there. To further prevent a case of the crazy Mondays, be sure that your office staff leaves a certain number of appointments open for these call-ins. It's a bit of preventive medicine that will cut waiting time for patients, keep you and your staff sane and on schedule and that will accommodate the patient who does need to be seen.

Hopefully, these new ideas will result in improvements in your practice communications. If they don't you can either give me a call or come in and see me on Monday at AMA — and don't worry about the bill; this advice is free.

Correspondence

PHARMACY AND MEDICINE

To the Editor:

The historical natural alliance of pharmacy and medicine is certainly important; there is very little in Stephen W. Shearer's editorial in the January NORTH CAROLINA MEDICAL JOURNAL with which one could disagree.

I am personally concerned about the growing trend in training programs to delegate to non-physician personnel areas of responsibility and knowledge formally reserved for physicians. I feel that this approach may ultimately lead to increased fragmentation of medical care and further depersonalization of the doctor-patient relationship. At a time when our national goals are oriented toward primary care and getting one's medical treatment from one source, this trend appears counterproductive.

I fail to see how increasing the complexity of the present health care delivery system could result in a decrease in medical costs. I feel that utilizing the services of a clinical pharmacist as a consultant would depend on data that would support a cost effective approach. I doubt if the use of drugs recommended by a clinical pharmacist would result in any less risk of iatrogenic disease related to adverse drug reactions, since I feel that the use of drugs in any patient population will always result in a certain percentage of adverse reactions. I do not feel that we should depend on a consultation with the clinical pharmacist to decide if drug treatment should be initiated. I believe that this is an area in which the physician should retain the knowledge and skill to determine therapy. I feel that the expansion of clinical pharmacy programs should be determined by whether their presence in a situation with well trained physicians creates any decreased cost of medical care.

WILLIAM W. FORE, M.D., Greenville, N.C.
Immediate Past President
North Carolina Society of Internal Medicine

To The Editor:

I would like to thank Dr. Fore for commenting on my editorial in the January NORTH CAROLINA MEDICAL JOURNAL. I agree that increased depersonalization and fragmentation of medical care may not be in our best interests. These are concerns that should be addressed in developing all new health professional roles. In my practice, I work with the patient's primary physician providing information about the

problem at hand, avoiding fragmentation and depersonalization.

Dr. Fore has asked for data about the cost effectiveness of a clinical pharmacy practice. I cite several articles:

Massoud and Gudougkas evaluated a clinical pharmacy service in a 170-bed community hospital and found that a 40% reduction in medication orders could have been achieved if the recommendations of the clinical pharmacist had been followed.¹ Second, Knapp et al found that inappropriate drug prescribing, as defined by explicit screening criteria, increased the length of hospital stay by 1.8 days.² Next, McKenney and Wasserman reported that adverse drug reactions decreased from 20% of 77 patients to 15.6% of 64 patients and, finally, to 8.2% of 73 patients ($p < 0.05$ for the first and third reaction rates).³ The comparison was between a traditional floor stock drug distribution system without a pharmacist, a floor stock system with pharmacist and a unit dose system with a pharmacist. Pathak and Nold observed that with physician approval patient training for home administration of antihemophilic factor, calcitonin, cytarabine, injectable analgesics and parenteral nutrients by pharmacists saved \$833,723 over two years. They noted that for every dollar charged by the pharmacy service 1.25 days of hospitalization and \$321.90 in hospital charges were saved.⁴ Sohn et al⁵ found that by educational programming, including personal contact with the clinical pharmacy staff, the cephalosporin budget of the medical center involved could be reduced by \$56,413.44.

In a large teaching hospital, Elenbaas, Payne and Bauman⁶ showed that having a clinical pharmacist consult with the patient's physician before requesting measurement of drug blood level saved the hospital \$12,086.61 annually.

Covinsky, Hamberger and Twin studied the impact of the docent clinical pharmacist,⁷ who functions with a physician (docent team leader), nurse, clinical medical librarian, dietician and social worker and found that for treatment of pneumococcal pneumonia the length of stay and total antibiotic cost were 13% and 80% lower respectively than a control site. The authors projected an annual savings of \$50,000 in drug costs in long term care. In ambulatory care, the effect of these services has been to decrease the average medication cost per patient visit from \$9.00 in 1971 to \$4.00 in 1980.

Kelly and his colleagues⁸ found that consultations by a clinical pharmacist could reduce intravenous therapy cost from \$23,518 to \$9,174 annually.

An important point about all of these studies is that the clinical pharmacist provides services in association with the patient's physician.

Dr. Fore exhibits a healthy skepticism about accepting the role of a clinical pharmacist before he has had the opportunity to first examine it. He may be interested in discussing the role and usefulness of a clinical pharmacist with other North Carolina internists who have had the opportunity to use their services. In this manner, the role of the clinical pharmacist can be better defined. However, clinical pharmacists should be evaluated individually as to their capability to perform this role.

STEPHEN W. SHEARER, M.S., Tarboro, N.C.

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To the Editor:

While I appreciate Mr. Shearer's review of recent pharmacy literature on the use of clinical pharmacists in hospital practice, I still am not convinced that widespread usage of these specialists would lower overall medical costs. The studies cited by Shearer were limited in scope and failed to take into account the cost to the hospital (and inevitably, to the patient) of the clinical pharmacist's salary plus the cost to the health care system of training the clinical pharmacist. Also, time spent in consultation with the clinical pharmacist would be time lost from patient care.

I feel that he has drawn unwarranted conclusions from the studies cited, including the one by McKenney and Wasserman in which the authors themselves stated that the study "suggests although does not prove" that the pharmacy services described in the study might achieve an overall decrease in the incidence of adverse drug reactions and a corresponding decrease in the length of hospital stay. I also noted upon reviewing the study by Massoud and Gudouskas that "of the 215 therapeutic comments presented by the pharmacy resident, only 38 were actually followed through by the attending physician" and "the reviewing physicians disagreed with 37 of the total comments made by the pharmacy resident."

I would like for you to understand that I agree fully with the role and usefulness of the clinical pharmacist in the training of physicians but I remain unconvinced that the use of the clinical pharmacist in a private practice setting is cost effective.

WILLIAM W. FORE, M.D.

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2. The "place" and "sponsor" are indicated for a program only when these differ from the place and source to write "for information."

July 10-12

31st Annual Institute on Tuberculosis & Other Respiratory Diseases
Place: YMCA — Blue Ridge Assembly, Black Mountain
Fee: \$30
For Information: C. Scott Venable, Executive Director, American Lung Association of N.C., P.O. Box 27985, Raleigh 27611 or (919) 832-8326.

July 13-17

23rd Annual Postgraduate Course (Morehead Symposium)
Place: Bogue Banks Country Club, Atlantic Beach
Fee: \$235
Credit: 30 hrs, AAFP applied for
For Information: Harry A. Gallis, M.D., Box 3306, Duke University Medical Center, Durham (919) 684-3279

July 16-18

3rd Annual Mountain Meeting
Place: Grove Park Inn, Asheville
Credit: 12 hrs
Fee: \$100
For Information: Emery C. Miller, M.D., Dept. of Cont. Ed., Bowman Gray School of Medicine, Winston-Salem

July 27-August 1

Radiology Postgraduate Course
Place: Bogue Banks Country Club, Atlantic Beach
Fee: \$250
Credit: 30 hrs, AAFP applied for
For Information: Donald Kirks, M.D., Box 3308, Duke Med. Ctr., Durham 27710

July 31-August 1

Symposium on Cardio-Vascular Diseases
Place: Holiday Inn, Wrightsville Beach
Information: Emile E. Werk, Jr., M.D., Chief of Medicine, University Medical Service, Area Health Education Center, 2131 South 17th St., Wilmington, N.C. 28401.

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News Notes from the—

DUKE UNIVERSITY MEDICAL CENTER

Dr. David G. Shand is the winner of the 1981 ASPET award, given by the American Society for Pharmacology and Experimental Therapeutics to a researcher whose work helps bring research and therapy closer together. Shand's work is centered around research on a group of drugs used to treat chest pain and irregular heart rhythms; he is also studying the effects of individual biochemical differences on the efficacy of therapeutic drugs.

Shand, professor of pharmacology and chief of the division of clinical pharmacology, was a 1980 recipient of one of two clinical pharmacology awards from the Burroughs Wellcome Fund. A holder of M.B. and Ph.D. degrees from St. Bartholomew's Hospital Medical College, London, Shand came to Duke in 1978 and established the division of clinical pharmacology that same year.

* * *

The Fifteenth Annual Symposium on Environmental Effects on Brain Development was held at the medical center on April 27. Topics of the scientific sessions included ways in which drugs affect the brain's development and functioning; functional differences between the brains of men and women; and the effects of maternal deprivation on the growth and development of infant animals.

* * *

Dr. H. Keith H. Brodie has been elected president of the 25,000-member American Psychiatric Association (APA), the largest psychiatric group in the nation and the nation's oldest medical society.

Brodie is chairman of the Department of Psychiatry at Duke University Medical Center and is James B. Duke Professor of Psychiatry and Law.

"These are interesting times for psychiatry," Brodie said. "The mental health care dollar will have to be defended in Congress. Training funds for psychiatrists are already deleted in the face of recent studies establishing the need for more psychiatrists. Another issue will be establishing reimbursement pro-

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Acute exacerbation of chronic bronchitis caused by *H. influenzae**

*Though clinical improvement has been shown, bacteriologic cures cannot be expected in all patients with chronic respiratory disease due to *H. influenzae*

SKIN AND SKIN STRUCTURES (integumentary) infections caused by Group A beta-hemolytic streptococci and staphylococci, non-penicillinase producers.

URINARY TRACT INFECTIONS caused by *E. coli* and *P. mirabilis*. (This drug should not be used in any *E. coli* and *P. mirabilis* infections other than urinary tract.)

NOTE: Perform cultures and susceptibility tests initially and during treatment to monitor effectiveness of therapy and susceptibility of bacteria. Therapy may be instituted prior to results of sensitivity testing.

Contraindications Contraindicated in individuals with history of an allergic reaction to penicillins.

Warnings Cyclacillin should only be prescribed for the indications listed herein.

Cyclacillin has less *in vitro* activity than other drugs of the ampicillin class. However, clinical trials demonstrated it is efficacious for recommended indications.

Serious and occasional fatal hypersensitivity (anaphylactoid) reactions have been reported in patients on penicillin. Although anaphylaxis is more frequent following parenteral use, it has occurred in patients on oral penicillins. These reactions are more apt to occur in individuals with history of sensitivity to multiple allergens. There are reports of patients with history of penicillin hypersensitivity reactions who experienced severe hypersensitivity reactions when treated with a cephalosporin. Before penicillin therapy, carefully inquire about previous hypersensitivity reactions to penicillins, cephalosporins and other allergens. If allergic reaction occurs, discontinue drug and initiate appropriate therapy. Serious anaphylactoid reactions require immediate emergency treatment with epinephrine. Oxygen, I.V. steroids, airway management, including intubation, should also be administered as indicated.

Precautions Prolonged use of antibiotics may promote overgrowth of nonsusceptible organisms. If superinfection occurs, take appropriate measures.

PREGNANCY. Pregnancy Category B. Reproduction studies performed in mice and rats at doses up to 10 times the human dose revealed no evidence of impaired fertility or harm to the fetus due to cyclacillin. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, use this drug during pregnancy only if clearly needed.

NURSING MOTHERS: It is not known whether this drug is excreted in human milk. Because many drugs are, exercise caution when cyclacillin is given to a nursing woman.

Adverse Reactions Oral cyclacillin is generally well tolerated. As with other penicillins, untoward sensitivity reactions are likely, particularly in those who previously demonstrated penicillin hypersensitivity or with history of allergy, asthma, hay fever, or urticaria. Adverse reactions reported with cyclacillin: diarrhea (in approximately 1 out of 20 patients treated), nausea and vomiting (in approximately 1 in 50), and skin rash (in approximately 1 in 60). Isolated instances of headache, dizziness, abdominal pain, vaginitis, and urticaria have been reported. (See WARNINGS) Other less frequent adverse reactions which may occur and are reported with other penicillins are anemia, thrombocytopenia, thrombocytopenic purpura, leukopenia, neutropenia and eosinophilia. These reactions are usually reversible on discontinuation of therapy.

As with other semisynthetic penicillins, SGOT elevations have been reported.

As with antibiotic therapy generally, continue treatment at least 48 to 72 hours after patient becomes asymptomatic or until bacterial eradication is evidenced. In Group A beta-hemolytic streptococcal infections, at least 10 days' treatment is recommended to guard against risk of rheumatic fever or glomerulonephritis. In chronic urinary tract infection, frequent bacteriologic and clinical appraisal is necessary during therapy and possibly for several months after. Persistent infection may require treatment for several weeks.

Cyclacillin is not indicated in children under 2 months of age.

Patients with Renal Failure Cyclacillin may be safely administered to patients with reduced renal function. Due to prolonged serum half-life, patients with various degrees of renal impairment may require change in dosage level (see DOSAGE AND ADMINISTRATION in package insert).

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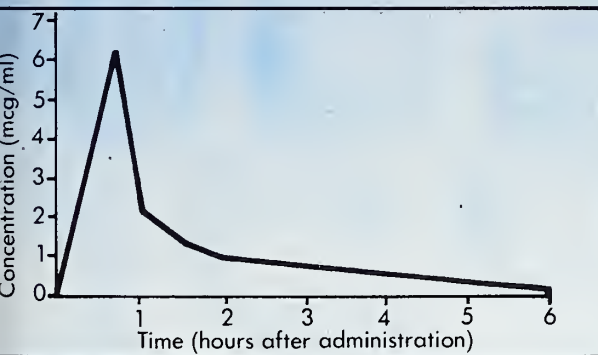
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cedures bringing mental health to parity with the rest of the care field."

Brodie will serve as president-elect until May, 1982. He will assume the presidency of his association in the same month that William Bevan, provost of Duke University, becomes president of the American Psychological Association.

Brodie came to Duke as chairman of psychiatry in 1974, after serving as assistant professor of psychiatry and program director of the General Clinical Research Center at Stanford. He received his undergraduate degree in chemistry from Princeton University and his M.D. degree from Columbia University College of Physicians and Surgeons.

* * *

The Duke Alzheimer's Family Support Network was incorporated in April at the regular monthly meetings of family, friends and professionals involved with victims of the incurable brain disorder that affects between 500,000 and 1.5 million Americans. The Duke group is a chapter of the National Alzheimer's Disease and Related Disorders Association and attracts attendants from four states for the meetings.

* * *

A biomedical researcher at Duke University Medical Center is among the first 12 Searle Scholars to receive three-year, \$150,000 grants for research support. Dr. James E. Nidel, assistant professor of hematology and oncology in the Department of Medi-

cine, received the award for his application, "Human Leukocyte Chemotactic Receptor."

Nidel is studying chemotaxis, the mechanism by which leukocytes, white blood cells, recognize signals of bacterial invasion and migrate to the site of the invasion and combat it.

Nidel received his M.D. and Ph.D. degrees from the University of Miami and was an intern, resident and fellow at the medical center before joining the Duke faculty.

He described the Searle Scholars Program as "welcome, not just for me, but for the field of research, because it recognizes the need to encourage and support researchers who are just beginning their careers."

The Searle Scholars Program was established with a grant from the trustees of the Searle Family Trust. The trust was established under the will of John G. Searle, grandson of the founder of G. D. Searle & Co., a research-based pharmaceutical firm in Skokie, Illinois.

* * *

Richard Frothingham and Robert Kinney, senior medical students, were recipients of MAP-RDI fellowships to do clinical work, in, respectively, Benin (formerly Dahomey) and Liberia. The awards were among 23 announced this spring by the Medical Assistance Program and the Reader's Digest International Fellowship of Wheaton, Illinois. Five Duke medical students have received MAP-RDI fellowships in the last two years.

* * *

The annual Wiley Forbus Award of the North Carolina Society of Pathologists has gone to Dr. Kenneth J. Widder for his work in developing methods of targeting anti-cancer drugs to specific sites of tumors. The Forbus award — named for Dr. Forbus, first professor and chairman of the Department of Pathology at Duke — is given each year to the pathology resident who makes "an outstanding contribution to the field of pathology."

The award was based on a paper by Widder and others describing a promising technique of delivering drugs to tumors. The technique involves loading microspheres — artificial cells about one-eighth the size of red blood cells — with drugs and drawing them to the site of the tumor by holding magnets near the tumor. In this way, drugs can be targeted specifically to the tumor, leaving the surrounding healthy cells untouched.

Widder received his M.D. degree from Northwestern University in 1979 and began his residency at Duke that same year. His co-researchers in the work were Dr. Andrew E. Senyei of the University of California-Irvine and Drs. Robert M. Morris, Donald Howard and Gerry Poore of Eli Lilly and Co., a maker of pharmaceuticals.

* * *

Dr. Alfred R. Shands, Jr., nationally known orthopaedist and first chief of the division of ortho-

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paedics at Duke University School of Medicine, died April 20 at the age of 82.

Shands was a member of the original faculty of the medical school. During his years at Duke (1930-37) Shands co-authored, with Dr. R. Beverly Raney, Jr., "A Handbook of Orthopaedic Surgery," which is still in print. Shands served as president of the American Orthopaedic Association in 1953-54, and the association later established a lectureship in his honor, the only such lectureship of the organization. His father,

Dr. A. R. Shands, was a charter member of the American Orthopaedic Association and also served as its president.

Shands left Duke in 1937 to become medical director of the Nemours Foundation of Wilmington, Delaware. He also served as surgeon-in-chief of the Alfred I. Du Pont Institute and visiting professor of orthopaedic surgery at the University of Pennsylvania.

He is survived by his wife, Elizabeth (Polly), a son, A. R. Shands, III, and a sister, Agnes Shands.

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News Notes from the—

**BOWMAN GRAY SCHOOL
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WAKE FOREST UNIVERSITY**

New research at the Bowman Gray School of Medicine has established another link between hypertension and a hormone which was discovered at the school last year.

For the first time, scientists have shown in an animal closely related to man that there is an association between the hormone, endoxin, and hypertension. And they have shown that levels of the hormone in the blood correspond to the extent of hypertension.

Results of the latest Bowman Gray research on endoxin were reported to the annual meeting of the

Federation of American Societies for Experimental Biology.

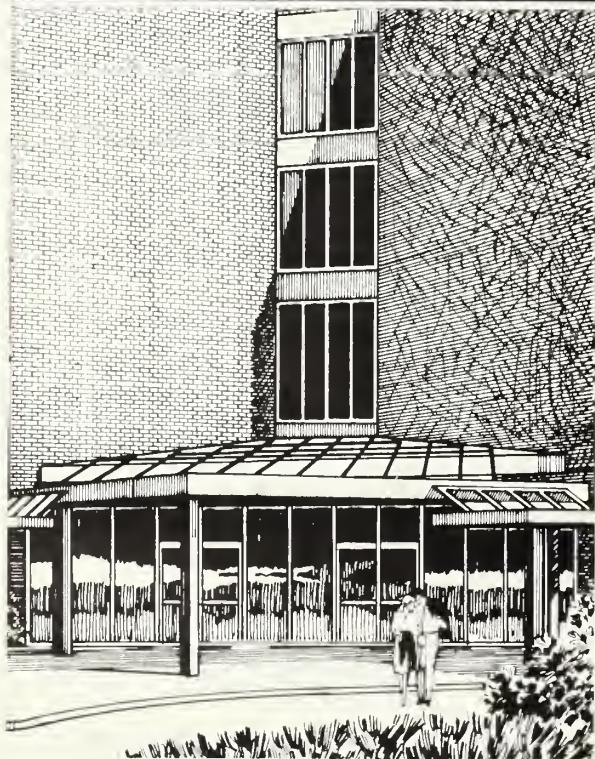
The Bowman Gray researchers also have found that by monitoring the level of endoxin in the blood, it may be possible to predict the eventual onset of certain types of hypertension.

The new research was conducted using Rhesus monkeys and African Green vervet monkeys. Presence of one of the nation's largest primate facilities at Bowman Gray permitted studies on endoxin to be expanded to animals whose systems are similar to that of humans.

Using hypertensive monkeys and a control group of monkeys with normal blood pressure, the researchers found a significant increase in the endoxin level in the blood from monkeys with hypertension. Generally, it was found that the higher the blood pressure, the higher the endoxin level.

The research also suggests that endoxin may be important in regulating both the systolic blood

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pressure and the diastolic blood pressure.

Work at Bowman Gray is continuing to analyze the structure of endoxin and to further evaluate its role in human hypertension.

* * *

Plans are under way for establishing a center for adolescent medicine at the Bowman Gray/Baptist Hospital Medical Center.

The center is being initiated through a gift from the Brenner family of Winston-Salem and will be known as the Brenner Center for Adolescent Medicine.

Initial focus of the center will be on both the development of a required teaching program in adolescent medicine for medical students and physicians who are training in pediatrics, and on the establishment of an adolescent medicine clinic at North Carolina Baptist Hospital.

Plans call for the future expansion of the center to include research on problems with adolescents.

Dr. Jimmy L. Simon, professor and chairman of the Department of Pediatrics, and a specialist in adolescent medicine will be co-directors of the center.

It will be the first center for adolescent medicine in North Carolina. There are only 26 such centers in the nation, two of which are in the southeast.

* * *

Dr. William H. Boyce, professor of urology at Bowman Gray, has been given one of the highest awards for achievement in urology.

He was presented the Barringer Medal of the American Association of Genito-Urinary Surgeons during the organization's annual meeting.

The award, given for outstanding contributions in the advancement of urology, is presented in memory of Dr. Benjamin S. Barringer, noted New York urologist who died in 1953.

The following year, the Barringer Award was created and 20 bronze medals were cast for subsequent use. The first recipient was Dr. Charles Huggins, a Nobel laureate.

Boyce, who heads Bowman Gray's Section on Urology, is a former winner of the Hugh Hampton Young Award of the American Urological Association. He also is a six-time winner of research awards from that association.

He is president of the Clinical Society of Genito-Urinary Surgeons.

Boyce is recognized for a surgical technique he developed which enables the surgeon operating on a kidney to make the incision without interfering significantly with blood vessels in the kidney.

Boyce's section also has pioneered use of ultrasound in the early detection and diagnosis of prostatic cancer and other diseases of the prostate.

* * *

"The Basic Atlas of Cross-Sectional Anatomy" by Bowman Gray faculty members has been awarded a certificate of excellence from the Association of American Publishers (AAP).

The book was prepared by Dr. Walter J. Bo, professor of anatomy and senior author; Dr. Isadore Meschan, professor of radiology; and Dr. Wayne A. Krueger, associate professor of anatomy. Illustrations were coordinated by George C. Lynch, professor of medical illustrations and director of the Department of Audio-visual Resources.

The book won honorable mention for excellence in design and production in the AAP's competition for 1980 books. The book was published by W. B. Saunders Company of Philadelphia.

* * *

Dr. Robert L. Dixon, associate professor of radiology (physics), has been elected to the Board of Directors of the American Association of Physicists in Medicine.

* * *

Dr. Gary G. Poehling, assistant professor of orthopedic surgery, has been elected to the editorial board of "Arthroscopy Video Journal, Inc."

* * *

Dr. Richard W. St. Clair, professor of pathology (physiology), has been selected to serve as chairman of the National Heart, Lung and Blood Research Review Committee B for a one-year term beginning in July, 1981.

* * *

Dr. George D. Rovere, associate professor of orthopedic surgery, has been selected by the American Board of Orthopedic Surgery, Inc., as an examiner trainee for the 1981 Certifying Examination.



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Celia Snavelly, instructor in medicine (medical social work), has been elected to the board of directors of Hospice of Greensboro, Inc., for a three-year term.

* * *

Dr. Thomas E. Sumner, associate professor of radiology and pediatrics, was awarded a Certificate of Merit for his scientific exhibit on "Real-Time Sonography of Congenital Cystic Kidney Disease." It was presented at the meeting of the American Roentgen Ray Society.

* * *

Dr. Elias G. Theros, professor of radiology, has been selected as an honorary fellow of the Netherlands Radiology Society. He is only the second American ever to receive this honor. He was cited for his innovations in radiologic education and for his prominence in international radiology education, and was awarded the illuminated scroll of the Netherlands Radiology Society. He spoke on "Radiologic Analysis in Metabolic Diseases of the Bone" for the society's oration in Utrecht, The Netherlands.

* * *

Dr. Robert A. Turner Jr., associate professor of medicine (rheumatology), was elected president of the North Carolina Chapter of the Arthritis Foundation at

the chapter's annual meeting. Peggy Werner, R.N. in the Section on Rheumatology, was elected to the Medical Administration Council of the chapter.

News Notes from the—

EAST CAROLINA UNIVERSITY SCHOOL OF MEDICINE

Several members of the Department of Anatomy attended the American Association of Anatomists and Chairmen's meeting in New Orleans April 19-24. Representing the department were Dr. Carl R. Morgan, professor and chairman, Drs. Irvin E. Lawrence and Hubert W. Burden, professors of anatomy, and Dr. Max C. Poole, assistant professor of anatomy.

Lawrence presented "Is the Vagus Nerve a Component of the Hypothalamo-Hypophyseal-Ovarian Axis?," a paper co-authored by Burden. Poole presented "Cytomorphometric Analysis of Pancreatic Islet Tissue from Alloxan Diabetic Rats."

* * *

Dr. R. Stephen Porter, assistant professor of family medicine, is the author of "Disopyramide: Therapeutic Use and Serum Concentration Monitoring," a

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chapter in *Individualizing Drug Therapy: Practical Application of Drug Monitoring* published by Gross, Townsend and Frank.

* * *

Dr. L. E. Masters, associate professor of family medicine, presented a talk on "Teaching Techniques" at the Teaching Practice Management Conference in Kansas City, Mo. The conference was sponsored by the American Academy of Family Residency Assistants Programs.

* * *

An article by Dr. Robert Brame, professor and chairman of the Department of Obstetrics and Gynecology, Dr. Jarlath MacKenna, assistant professor of obstetrics and gynecology, and Dr. Charles Hodson, assistant professor of obstetrics and gynecology, appeared in the April issue of the *Journal of American College of Obstetrics and Gynecology*. The article is entitled "Clinical Utility of Fetal Lung Maturity Profile."

* * *

Dr. C. Tate Holbrook, assistant professor of pediatrics, presented "Advances in Pathology" at the Childhood Cancer Conference sponsored by the American Cancer Society in Charlotte April 9.

* * *

Dr. A. Mason Smith, associate professor of microbiology, was a guest speaker at Lynchburg College,

Lynchburg, Va., in March. His topic was "Application of Immunology to Medicine."

* * *

Dr. Paul D. Mozley, professor of obstetrics and gynecology, published "Malignant Hyperthermia Following Intravenous Iodinated Contrast Media: Report of a Fatal Case" in the spring issue of *Diagnostic Gynecology and Obstetrics*. Mozley also attended the ninth annual conference of Psychosomatic Obstetrics and Gynecology and introduced the resident prize paper. The conference was held at the Temple University Conference Center in Philadelphia, Pa.

* * *

Dr. John Moskop, assistant professor of pediatrics and humanities, recently published "Mill and Hartshorne" in *Process Studies*. Moskop also is the author of "Medicine, Ethics, and the Living Body: A Response to Thomasma and Pellegrino" in the February issue of the *Journal of Metamedicine*.

* * *

Dr. Uwe Müller, assistant professor of microbiology, recently was a guest speaker at N.C. Wesleyan College, Elon College and Presbyterian College, Clinton, S.C., where he presented "Genetic Engineering in Modern Society: Its Role in Basic Research, Agriculture and Medicine."

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Dr. Max C. Poole, assistant professor of anatomy, has received a \$46,131 grant from the National Institutes of Health to study "Morphometry of Gonadotropes During Hyperprolactinemia."

* * *

Dr. Paul L. Fletcher, associate professor of microbiology, was a guest speaker at Hampden-Sydney College, Hampden-Sydney, Va. He presented "Evolution of a Metabolic Path: Degradation of Aromatic Compounds."

* * *

Dr. Irvin L. Blose, professor of psychiatry, directed a seminar on "Research in Alcoholism" at the April meeting of the N.C. Alcohol and Drug Foundation held at the Water B. Jones Alcoholic Rehabilitation Center in Greenville.

* * *

Several members of the departments of microbiology, biochemistry, physiology and anatomy attended the 65th annual meeting of the Federation of American Societies for Experimental Biology in Atlanta.

Presenting papers and poster sessions were Dr. A. Mason Smith, associate professor of microbiology, "The Distribution and Kinetics of Immunoglob-

ulin Isotypes Carrying the M467 Idiotypic in the Genus *Mus* Following Immunization with *Salmonella* Flagellin"; Dr. Leonard S. English, assistant professor of microbiology, "Production of Immunoregulatory Factors in the First 12 Hours of Immune Responses *in vivo*"; Dr. Subhash C. Gautam, postdoctoral fellow in microbiology, "Progressive Growth of a Weakly Immunogenic Fibrosarcoma Induces Immuno-Suppression in Mice"; Dr. G. Lynis Dohm, associate professor of biochemistry, "The Effect of Acute Exercise on Amino Acid Metabolism"; Dr. Hisham A. Barakat, associate professor of biochemistry, "Fatty Acid Metabolism During Recovery from Acute Exercise"; Dr. George J. Kasparek, associate professor of biochemistry, "Role of Lysosomes in the Loss of Major Constituents of Liver During Exercise"; Dr. John Yeager, assistant professor of physiology, "Verapamil Prevents Isoproterenol-induced Cardiac Failure"; Dr. David L. Beckman, professor of physiology, and Dr. Dan Crittenden, research associate in physiology, presented two poster sessions, "Stellate Ganglion Influence on Static Compliance and Surface Layer Lipids in Cat Lungs" and "Protection from Seizures Due to High Pressure Oxygen by Clonazepam and Propylene Glycol."

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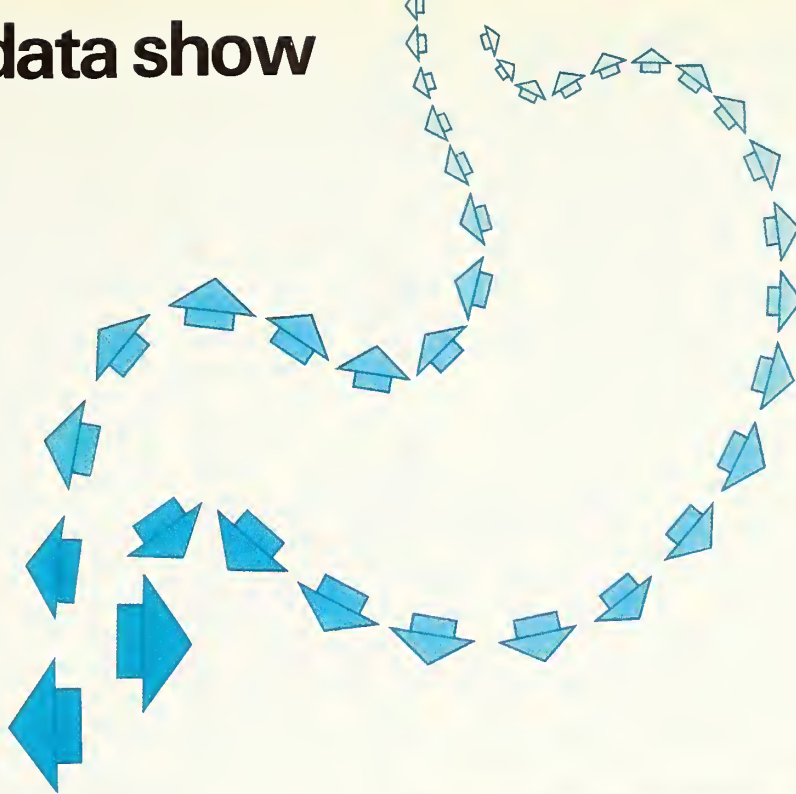
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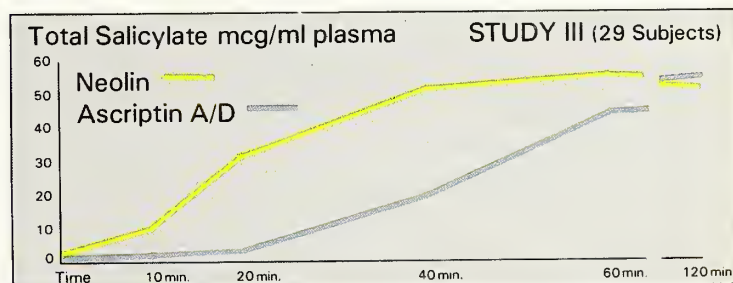
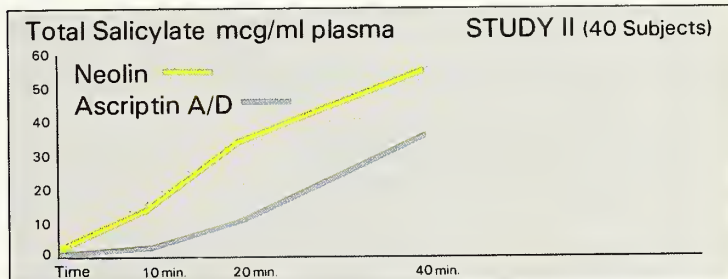
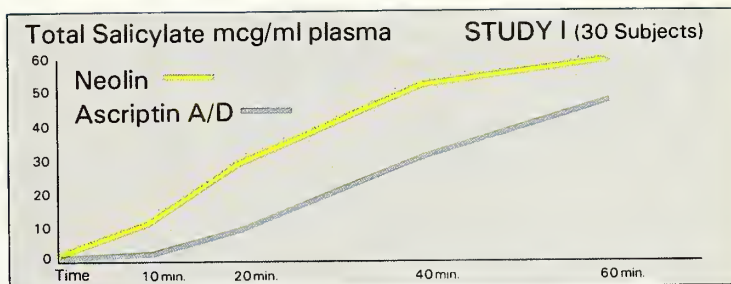


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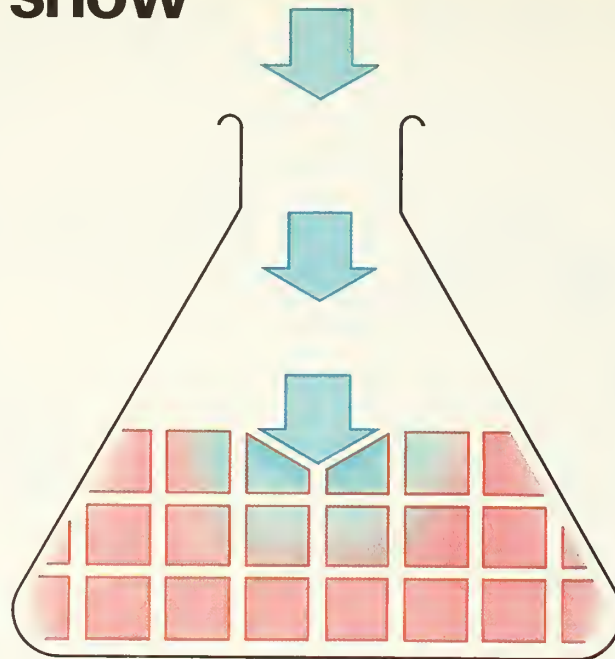
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| Test II | Total Acid-Neutralizing Capacity (mEq) |
|---------------|--|
| Neolin | 17.0 |
| Ascriptin A/D | 14.5 |

1. Harvey, S.C.: "Gastric antacids and digestants," in Goodman, L.S. and Gilman, A. (eds): *Pharmaceutical Basis of Therapeutics*, The, ed 6, New York: Macmillan Publishing Co., Inc., 1980, p 991.
2. Garnett, W.R.: "Antacids," in Apple, W. (ed): *Handbook of Nonprescription Drugs*, ed 6, Washington, D.C.: American Pharmaceutical Association, 1979, p 6.

*Bristol-Myers Test Method designed to evaluate the acid-neutralizing capacity of buffered aspirin preparations using single tablet samples of NEOLIN and Ascriptin A/D. Each product stirred for 15 minutes in an excess of 0.1N HCl at 25 °C (Test I) and 37 °C (Test II) and back titrated with NaOH to pH 2.8.

meeting were Dr. Hubert W. Burden, professor of anatomy, Dr. Thomas M. Louis, associate professor of anatomy, and Dr. Lamar T. Blankenship, research associate. Burden was co-author of a paper presented by Dr. Charles A. Hobson, assistant professor of obstetrics and gynecology, entitled "Serum Steroid Hormone and Gonadotropin Concentrations During Growth of Transplantable Prolactin Secreting Tumors."

Louis and Blankenship presented a poster session on "Plasma Progesterone and Progesterone Binding Protein During the Estrous Cycle and Pregnancy in *Dolichotis Patagona* (Mara)."

* * *

Dr. Zubie W. Metcalf, director of the Center for Student Opportunities, recently was named chairperson of the Southern Regional Nominating Committee of the Minority Affairs Section of the Association of American Medical Colleges.

* * *

Dr. Donald Barnes, assistant professor pharmacology, published "Effects of Anionic Polymeric Drugs and Other Immunoactive Agents on Hepatic Mitochondrial Mixed-Function Oxidases," a chapter in *Anionic Polymer Drugs* published last fall by John Wiley & Sons.

News Notes from the

**UNIVERSITY OF NORTH CAROLINA-
CHAPEL HILL SCHOOL OF MEDICINE
AND
NORTH CAROLINA MEMORIAL HOSPITAL**

Medical scientists at the University of North Carolina at Chapel Hill last year ranked among the top U.S. medical school faculties in the percentage of approved research projects funded by the National Institutes of Health.

Their research proposals ranked fifth in terms of overall quality and achieved an NIH funding success rate that was ninth best among American medical schools.

These statistics are contained in the latest Information for Management, Planning, Analysis and Coordination Report compiled by NIH for institutions with NIH grants. The IMPAC Report prepared for each school does not disclose the ranking of other schools.

NIH is by far the single largest source of funds for health-related research in this country. The total value of current NIH grants to the UNC-CH School of Medicine is \$17.9 million.

During fiscal year 1980, four out of five grant applications submitted by the School of Medicine were approved in the first round of NIH's review process.

Of those initially approved, 44.8% were funded, giving the medical school the ninth best NIH funding rate.

For the purpose of fund allocation, projects are ranked in order of merit or importance, as judged by NIH's research evaluation groups. The higher a project's priority rating, the more likely it is to be funded.

Last year UNC-CH medical research proposals received a combined priority score that was the fifth highest among the nation's 66 medical schools submitting at least 50 grant applications.

"The priority score is really the outstanding figure in these statistics, as far as we're concerned," said Clarence Stover, associate dean for administration of the UNC-CH School of Medicine. "We think it is a good indication of the competitiveness and relative quality of our research activities here."

Dr. Stuart Bondurant, dean of the medical school, noted that the scientists who review grant proposals for NIH are, themselves, faculty members at medical schools across the country and are selected by NIH for their expertise in particular areas of research.

"Our high NIH ranking reflects the fact that the research engaged in by our faculty is recognized by their peers as being of exceptionally high quality and potential," Bondurant said.

"We have faculty members who are known, throughout the world in many cases, as leading authorities in their fields and investigators of the highest caliber."

Bondurant added that he is confident the UNC-CH School of Medicine will continue as a national leader in biomedical research.

"The reputation for excellence that our research programs have earned will help ensure that we will continue to attract talented, energetic faculty members to take up the search for solutions to some of mankind's most difficult health problems."

* * *

Dr. Kenneth M. Brinkhous, alumni distinguished professor of pathology emeritus, was awarded the highest honor of his specialty April 14 in Atlanta.

Brinkhous received the Gold Headed Cane Award of the American Association of Pathologists, an award created in 1919 to honor "a physician who represents the highest ideals in medicine and pathology." The award was presented at a dinner of the AAP, a member of the Federation of American Societies for Experimental Biology (FASEB).

World-renowned for his pioneering studies of blood coagulation which led to the first effective control of hemophilia, Brinkhous is a past president of FASEB and also of the American Association of Pathologists and Bacteriologists and the American Society for Experimental Pathology, the two groups that merged to form AAP in 1976.

Brinkhous has devoted nearly half a century as leader of a basic and clinical research group devoted to investigation of blood clotting mechanisms and methods of diagnosing and treating hemostatic defects.

His work on hemophilia led to development in 1947 of a unique experimental colony of hemophilic dogs at the School of Medicine, one of the world's major multidisciplinary clinic research centers for the study of bleeding and clotting disorders. The center's research led to commercial production of a concentrate of the antihemophilic factor that has made it possible for hemophilic patients to treat themselves at home to prevent crippling and to undergo surgical procedures without the threat of hemorrhage.

Brinkhous and his colleagues developed the partial thromboplastin time test that now is used worldwide for rapid screening of potential bleeders. In recent years, Brinkhous has studied platelets in hemostatic and thrombotic disorders, and his work on measurement of platelet aggregation has led to simplified clinical testing for von Willebrand's disease.

Born in Clayton County, Iowa, Brinkhous received his A.B. and M.D. degrees from the University of Iowa. He was a member of the pathology department there from 1932 to 1946, except for five years in the Army Medical Corps during World War II. In 1946 he accepted a position as chairman of the Pathology Department of UNC-CH and has been instrumental in training practicing pathologists and leading a large

number of investigators in the field of thrombosis and hemorrhage.

In 1967, Brinkhous was awarded an honorary doctorate of science by the University of Chicago. He was elected to membership in the National Academy of Sciences in 1972 and is a senior member of the Institute of Medicine.

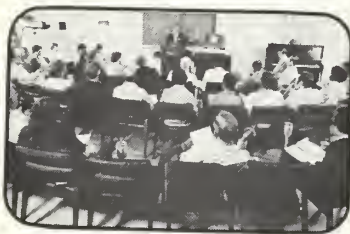
He has received 20 honorary awards including the Ward Burdick and H. P. Smith Memorial Lecture Awards of American Society of Clinical Pathologists, the Distinguished Alumni Award of the University of Iowa, and the Oliver Max Gardner Award of the University of North Carolina Board of Governors.

Currently the chief editor of *Archives of Pathology and Laboratory Medicine* and editor of the *Year of Pathology and Clinical Pathology*, Brinkhous serves on the editorial boards of many other journals, including the *Journal of the American Medical Association*, *International Review of Experimental Pathology*, and *Perspectives in Biology and Medicine*. He has published 274 papers and chapters in scientific journals and texts dating from 1934 to 1980.

* * *

Dr. William E. Easterling Jr., chief of staff of North Carolina Memorial Hospital since 1974, has been

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named associate dean for clinical affairs at the School of Medicine.

The appointment, effective April 1, was announced by Dr. Stuart Bondurant, dean of the medical school.

"The coming months will be a time of great change for our medical school," Bondurant said. "Dr. Easterling will assume leadership in the clinical area as we address such issues as changes in patterns of support, the effectiveness of teaching programs, and relationships with referring physicians and our local community."

Easterling's new responsibilities will encompass areas formerly overseen by Dr. William Cromartie, who has served as an associate dean in charge of clinical sciences for the medical school only. The dean said this move is "part of an administrative reorganization designed to bring clinical affairs in the hospital and the school of medicine into closer relationship under the leadership of the same person."

He said Cromartie will "retain his involvement in the senior administration of the medical school, and will assume new duties with responsibilities equivalent to his work in the clinical area."

Easterling earned the A.B. degree at Duke and received his medical degree from the University of North Carolina in 1956. He has served on the faculty of the medical school since 1964, and in 1971 was named professor in the Department of Obstetrics and Gynecology. He has held numerous administrative offices in the medical school.

As chief of staff, Easterling will continue his role as chief officer of the hospital's medical/dental staff. Dean Bondurant said Easterling's additional responsibilities as associate dean "will involve an executive relationship with all of the medical school's patient care departments in coordinating and overseeing clinical efforts, research programs, budgets and faculty appointments."

* * *

When plans were being laid for the formation of the Cancer Research Center at the University of North Carolina at Chapel Hill in 1975, the Burroughs Wellcome Fund was among the first to pledge financial support. Recently the fund gave the University \$200,000 of its \$250,000 pledge to help finance construction of a facility to house the Cancer Research Center.

Noting receipt of the contribution, Dr. Stuart Bondurant, dean of the School of Medicine, said, "The Burroughs Wellcome Fund originally planned to make this contribution over a five-year period. We are grateful they have decided instead to make the first four installments at this time. Because the financial needs are extremely great at this stage, this support is not only generous, but also quite literally vital."

Construction is expected to begin later this year on the UNC-CH cancer research building to be known as the Lineberger Cancer Research Center. The facility is expected to be completed in 1984 and will house the laboratories of the center's original core faculty now scattered throughout the UNC-CH medical center.

Bondurant noted that the Burroughs Wellcome Fund has supported cancer center activities for a number of years.

"The sponsorship of the Burroughs Wellcome Fund has enabled us to bring distinguished visiting professors to campus, thus benefiting medical education throughout the region," he said.

* * *

Thirty years of black student enrollment was commemorated April 24 at the School of Medicine. A series of activities was planned, culminating with the first Lawrence Zollicoffer Lecture.

Dr. Louis W. Sullivan, dean of the Morehouse College School of Medicine in Atlanta, delivered the Zollicoffer Lecture. His topic was "Minority Physicians in the 1980s: Prospects and Challenges."

Sullivan also participated in rounds and in a number of meetings with faculty, students and alumni of the School of Medicine. His visit was sponsored by the Student National Medical Association, an organization involved in areas of specific interest to black students, in conjunction with the School of Medicine.

The Zollicoffer Lecture is named in honor of the late Dr. Lawrence Zollicoffer, the fourth black student to graduate from the School of Medicine.

A native of Halifax County, Zollicoffer graduated from North Carolina A. and T. State University in 1948 at the age of 17. Following military service and

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several years in the teaching profession, he enrolled in the University of North Carolina at Chapel Hill.

His post-graduate training included a pediatrics fellowship at The Johns Hopkins University Hospital, and Zollicoffer remained in Baltimore to practice pediatrics.

He became a prominent physician, known especially for his humanitarian accomplishments.

Garwyn Medical Center, of which Zollicoffer was a founder, was one of the first black-owned and operated medical centers in the Baltimore area and received national recognition. He also was a member of Freedom House, one of the nation's oldest organizations for the advancement of civil rights. Zollicoffer died of cancer in 1976.

One of Zollicoffer's four children, Michael L. Zollicoffer, currently is a student in the UNC-CH School of Medicine. Other members of the family also were in Chapel Hill for activities connected with the Zollicoffer Lecture.

The first black student in the School of Medicine was Dr. Edward O. Diggs, who enrolled in 1951. Now a Winston-Salem physician, Diggs graduated in 1956 and was the first of 111 minority students to receive M.D. degrees from UNC-CH during the past 30 years.

For a number of years, the School of Medicine at UNC-CH has consistently had one of the highest

minority enrollments among all traditionally white medical schools in the nation.

Presently, 13% of UNC-CH's medical student enrollment is black and other minorities are represented by an additional 2.6%.

* * *


Dr. Thomas B. Barnett has been named Bonner Professor of Pulmonary and Allied Diseases in the School of Medicine. University Chancellor Christopher C. Fordham III announced the appointment.

Barnett is the first professor to hold the Bonner professorship which was established last year by a gift from Dr. M. D. "Rabbit" Bonner and Blanche Hanff Bonner of Greensboro, both UNC-CH alumni.

Barnett joined the medical school faculty in 1952 as an instructor in medicine. He was promoted to assistant professor in 1954, associate professor in 1958 and full professor in 1964. Barnett headed the division of pulmonary medicine from 1954-75.

He spent 1966-67 as a National Heart Institute Special Fellow in Respiratory Physiology at the University of Copenhagen, Denmark. He was awarded a Kenan Research Leave for 1975-76 and returned to Copenhagen to spend the year at the August Krogh Institute.

A native of Tennessee, Barnett graduated from the



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University of Tennessee in 1944 and earned his M.D. degree from the University of Rochester (N.Y.) in 1949.

His current research deals with ventilatory stimulus-response relationships in the presence of abnormal respiratory mechanics.

In addition to teaching in the field of pulmonary medicine, Barnett's special interests have related to the use of low density gases in localizing sites of airway obstruction and to the role of protease inhibitors in the pathogenesis of obstructive lung diseases.

* * *

Dr. Roger L. Lundblad has been named associate director of the Dental Research Center.

Lundblad is professor of pathology and biochemistry, School of Medicine, and professor of oral biology in the Department of Periodontics, School of Dentistry. He was appointed to the staff of the center in 1968 and became acting associate director in 1978. He also is associate director of the Center for Thrombosis and Hemostasis.

His research concerns protein chemistry and blood coagulation.

Before coming to Chapel Hill, Lundblad was a research associate at Rockefeller University and the University of Washington at Seattle.

A California native, he earned his B.S. degree in chemistry from Pacific Lutheran University in 1961 and his Ph.D. from the University of Washington at Seattle in 1965.

* * *

Six faculty members attended the annual combined meeting of the North Carolina Chapter of the American College of Physicians and the North Carolina Society of Internal Medicine Feb. 14-15 at Duke University Medical Center.

Dr. Stuart Bondurant, dean of the School of Medicine, was guest speaker. He spoke on "Some Current Issues in American Medicine." Dr. Henry P. Nathan, chief resident and clinical instructor, participated in a panel discussion. Dr. Eugene M. Bozyski, professor of medicine, spoke on "G.I. Complications of Diabetes Mellitus."

Dr. John T. Gwynne, assistant professor of medicine, spoke on "Hyperlipidemia and Atherosclerosis in Diabetes." Dr. William B. Wood, director of con-

tinuing medical education and alumni affairs, and Dr. James A. Bryan, professor of medicine, also attended.

* * *

Doug Anderson, assistant director of professional support services, radiology, has been elected for a three-year term as a member of the board of directors of the Nuclear Medicine Technology Certification Board.

AMERICAN COLLEGE OF PHYSICIANS

Dr. Stuart Bondurant, dean of the University of North Carolina School of Medicine, was honored with a Mastership in The American College of Physicians at the annual session in Kansas City in April. He is immediate past president of the organization. Of the 51,000 members — doctors of internal medicine, related specialists and physicians-in-training — only 159 hold the rank of Master. Also at the Kansas City meeting, Dr. Joseph Johnson, chairman of the Department of Medicine at Bowman Gray School of Medicine, was chosen North Carolina's governor elect. Three other North Carolina physicians — Drs. William Hopper of Greensboro, James Wortman of Wilmington and Joe Moore of the Duke University Medical Center — were elected Fellows of the college. The following physicians are new members of the organization: Drs. David Boerner, Clyde Guthrow and Nelson Rassi of the Duke University Medical Center; Dr. Edward Bradford of Charlotte; Dr. Charles Crumley of Lincolnton; Dr. Tom Carmody of Morehead City; Dr. Jafar Ghassemian of Fayetteville; Dr. John Holston of Cherry Point; and Dr. Charles Lefler of Brevard.

FEDERATION OF STATE MEDICAL BOARDS

Dr. Bryant L. Galusha of Charlotte was installed as president of the Federation of State Medical Boards of the United States at its annual meeting in Chicago in April. A member of the N.C. Board of Medical Examiners from 1968 through 1980, he is widely recognized for contributions to the field of medical licensure. He is director of medical education at Charlotte Memorial Hospital and holds appointments as clinical professor of pediatrics at the University of North Carolina School of Medicine, assistant professor of food and nutrition at Winthrop College in Rock Hill, S.C., and adjunct professor of nursing at the UNC-Charlotte School of Nursing.

In Memoriam

RUFUS PRESTON SYKES, M.D.

Dr. Rufus Preston Sykes, a family practitioner in Asheboro, died February 9, after a short illness.

He was born December 9, 1899, in Conway, North Carolina, to the late Carrie Boone and John Addison Sykes.

Dr. Sykes attended the University of North Carolina for his undergraduate work and graduated from Tulane Medical School. He interned at City Memorial Hospital in Winston-Salem and took his residency at Baptist Hospital in Winston-Salem. He had been president of the Randolph County Medical Society, a member of the Randolph Hospital medical staff, a director of the Randolph County Board of Health,

a member of the Contemporary Society of Medicine and member of the Royal Society of Medicine. He was president of the board of trustees of the First Methodist Church of Asheboro.

Dr. Sykes was a dedicated physician who provided excellent medical care to his patients for over 50 years. He was loved by his patients, his colleagues and the community at large. He will be missed by one and all who had the pleasure of knowing him.

Surviving are his wife, Dr. Jean Trogdon Sykes; a brother, John Sykes of Conway; sisters, Mrs. Lucy Williamson of Turkey, Mrs. Maggie Gay of Seaboard, and Mrs. Mary Rich and Mrs. Ruth Story both of Conway.

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Index to Advertisers

| | | | |
|---|-----------------------|---|--|
| Air Force | 503 | Medical Mutual Insurance Company | 450 |
| Blue Cross & Blue Shield of N.C. | 463 | Mutual of Omaha | 447 |
| Bristol-Myers Professional Products | 465, 466, 509, 510 | National Medical Enterprises, Inc. | 497 |
| Burroughs Wellcome Company | 457, 498 | Ortega Pharmaceutical Company | 508 |
| Charlotte Chest Laboratory | 502 | Plyler Financial Services | 505 |
| Charlotte Treatment Center | 518 | Provident Mutual Life Insurance Co. | 513 |
| Children's Home Society of N.C. | 499 | Ramada Inn Downtown | 456 |
| Crompton, J. L. & J. Slade, Inc. | 449 | Roche Laboratories | Cover 2, 443, 444, Cover 3, Cover 4 |
| Fellowship Hall | 512 | Saint Albans Psychiatric Hospital | 506 |
| Golden-Brabham Insurance Agency | 458 | Upjohn Company | 491, 492 |
| Graphic Cardiology | 455 | Vyquest Development Corp. | 504 |
| Holly Hill Hospital | 507 | Willingway, Inc. | 514 |
| Lilly, Eli & Company | 462 | Winchester Surgical Supply Co., Winchester-Ritch Surgical Co. | 445 |
| Mandala Center | 446 | Wyeth Laboratories | 451, 452, 500, 501 |
| Mead Johnson & Company | 461 | | |

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North Carolina MEDICAL JOURNAL

Official Journal of the NORTH CAROLINA MEDICAL SOCIETY □ □ □ August 1981, Vol. 42, No. 8

President's Acceptance Speech 541
Josephine E. Newell, M.D.

Original Articles

Prescription Medication in the Workplace. Occupational Absenteeism, Accidents, and Performance When Using Non-Psychoactive and Psychoactive Medication 545
Richard C. Proctor, M.D.

Illness Onset and Levels of Health Care Provided: A Study of 213 Families 548
Robert B. Taylor, M.D.,
Robert L. Michielutte, Ph.D., and
Anne Herndon, Ph.D.

Acute Beryllium Lung Disease 551
William F. Hopper, M.D.

Special Article

Medical Care in North Carolina Jails 554
Nancy Taylor, R.N., and
Carleen Massey, R.N.

Mini-Feature

Toxic Encounters of the Dangerous Kind — More on Speeding 560
Ronald B. Mack, M.D.

Editorials

John S. Rhodes, M.D. 567
Medicine in the Workplace 567

The Price of Civilization or Your pH Hangs in the Balance .. 567

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AUG 31 1981

Practice Management

Paying Today Gives Patients a Pain 569

NC-AMA Delegate's Report

1981 Annual Meeting of the AMA
House of Delegates Facing 570

Bulletin Board

New Members of the State Society 573

What? When? Where? 573

Auxiliary to the North Carolina
Medical Society 575

News Notes from the Bowman Gray
School of Medicine of Wake
Forest University 576

News Notes from the Duke
University Medical Center 579

News Notes from the University of
North Carolina-Chapel Hill
School of Medicine and North
Carolina Memorial Hospital 585

News Notes from the East Carolina
University School of Medicine .. 592

American College of Cardiology ... 595

North Carolina Hospital Association 595

In Memoriam 596

Classified Ads 613

Index to Advertisers 614

1981 Committee Conclave: Sept. 23-27,
Southern Pines

1982 Conference for Medical Leadership:
February 5-6, Winston-Salem

1982 Annual Sessions: May 6-9,
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During the past several years, I have heard my name mentioned in movies, on television and radio talk shows, and even at Senate subcommittee sessions. And I have seen it repeatedly in newspapers, magazines, and yes, best-sellers. Lately, whenever I see or hear the phrases "overmedicated society," "overuse," "misuse," and "abuse," my name is one of the reference points. Sometimes even *the* reference point.

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Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed, drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other anti-depressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

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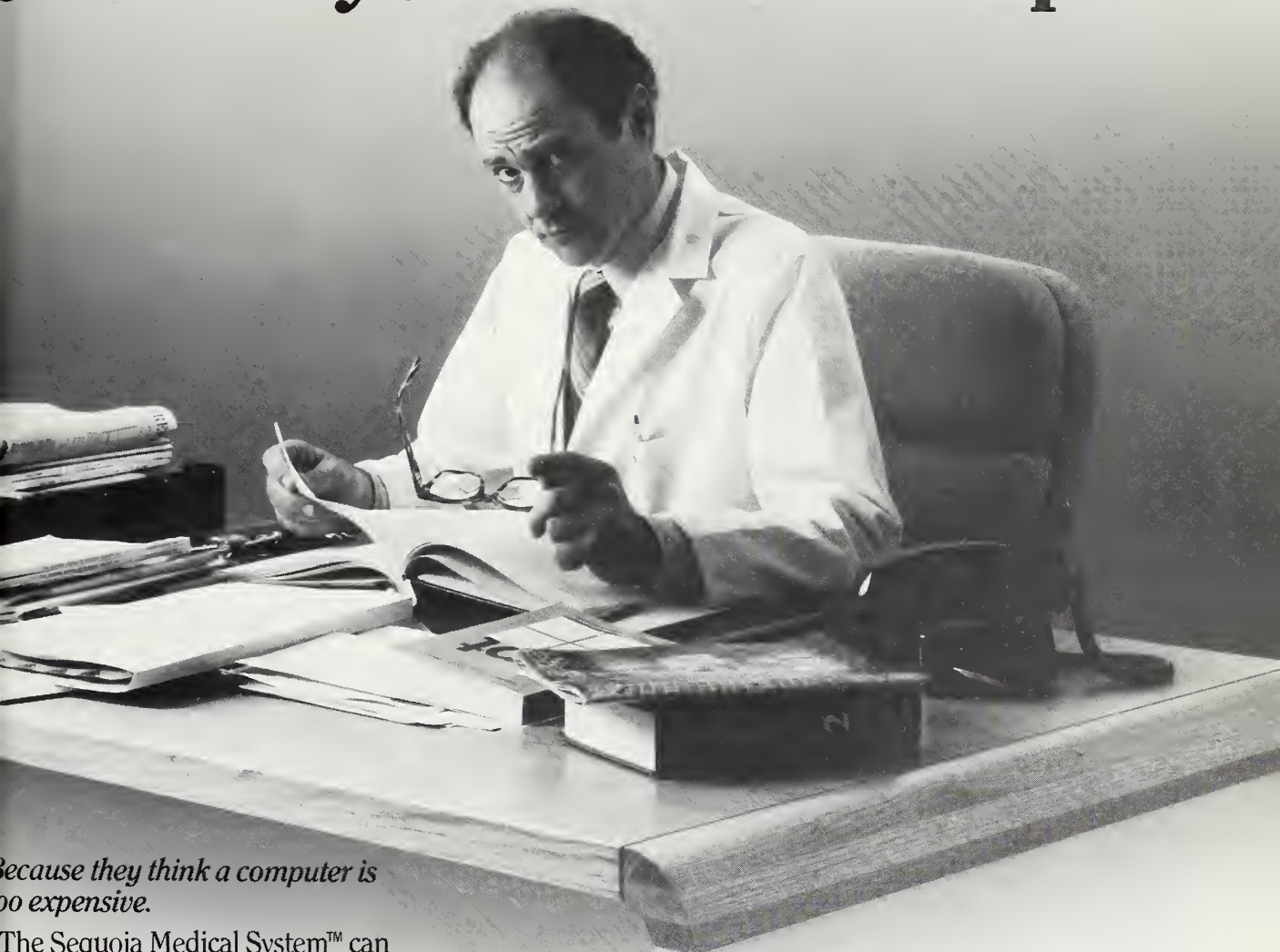
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Robert W. Gibson, M.D.
James Mattox, M.D.
Ali Jarrahi, M.D.
Selwyn Rose, M.D.
Glenn N. Burgess, M.D.

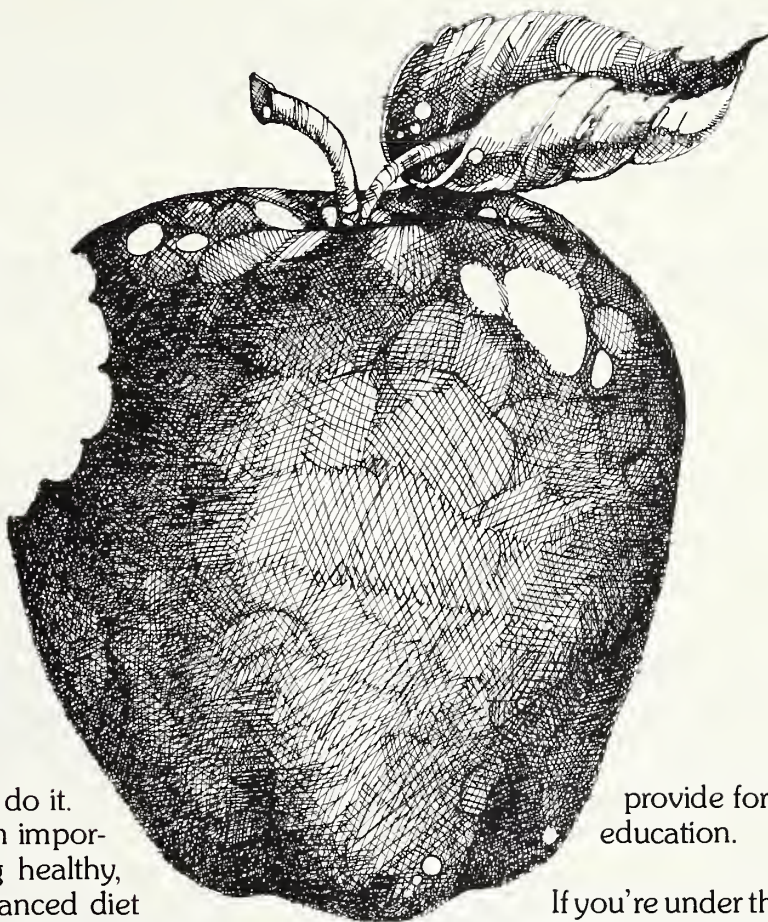
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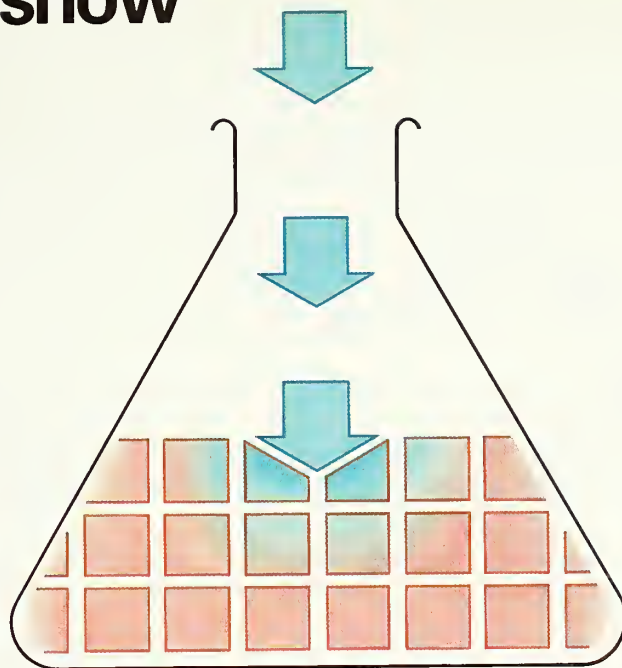
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in vitro data show



Neolin®

Each tablet contains 324 mg aspirin, 225 mg magnesium carbonate and 200 mg calcium carbonate.

Neolin has greater acid-neutralizing effectiveness than Ascriptin® A/D

NEOLIN contains two proven effective acid-neutralizers, magnesium carbonate and calcium carbonate.

Ascriptin A/D, on the other hand, is formulated with magnesium hydroxide and aluminum hydroxide. Aluminum hydroxide has been reported to be a poorly effective acid-neutralizer.¹ Additionally, crushing of this particular buffer, as must be done for tablet use, alters its structure, further reducing antacid efficacy.²

It is not surprising, therefore, that NEOLIN proved superior to Ascriptin A/D in two separate *in vitro* tests* designed to evaluate the acid-neutralizing capacity of buffered aspirin. These studies showed that NEOLIN had 17.2% to 48.2% greater acid-neutralizing capacity than did Ascriptin A/D.

| Test I | Total Acid-Neutralizing Capacity (mEq) |
|---------------|--|
| Neolin | 16.9 |
| Ascriptin A/D | 11.4 |

| Test II | Total Acid-Neutralizing Capacity (mEq) |
|---------------|--|
| Neolin | 17.0 |
| Ascriptin A/D | 14.5 |

1. Harvey, S.C.: "Gastric antacids and digestants," in Goodman, L.S. and Gilman, A. (eds): *Pharmaceutical Basis of Therapeutics*, The, ed 6, New York: Macmillan Publishing Co., Inc., 1980, p 991.
2. Garnett, W.R.: "Antacids," in Apple, W. (ed): *Handbook of Nonprescription Drugs*, ed 6, Washington, D.C.: American Pharmaceutical Association, 1979, p 6.

*Bristol-Myers Test Method designed to evaluate the acid-neutralizing capacity of buffered aspirin preparations using single tablet samples of NEOLIN and Ascriptin A/D. Each product stirred for 15 minutes in an excess of 0.1N HCl at 25 °C (Test I) and 37 °C (Test II) and back titrated with NaOH to pH 2.8.



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***In vivo* data show**

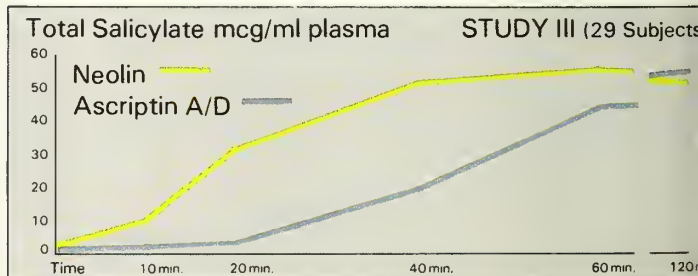
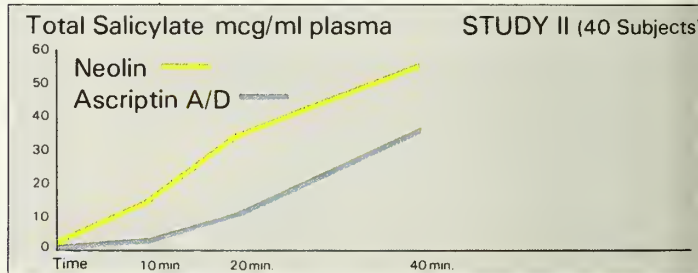
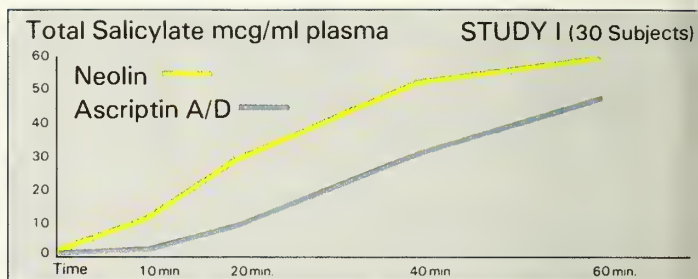


With greater acid-neutralizing capacity,

Neolin[®]

gets relief into
circulation
faster than
Ascriptin[®] A/D

When salicylate blood levels of NEOLIN and Ascriptin A/D were compared in three separate crossover studies, total amounts were found to be higher for NEOLIN up to one hour after ingestion. (Volunteers took 2 five-grain tablets of either medication.) More rapid absorption with NEOLIN means more rapid availability for pain relief, particularly important to patients with osteoarthritis.



Neolin[®] the aspirin for today—and every c

Each capsule-shaped, scored tablet contains 324 mg aspirin, 225 mg magnesium carbonate and 200 mg calcium carbonate.



PRESIDENT'S NEWSLETTER

NORTH CAROLINA MEDICAL SOCIETY

NO. 3

AUGUST 1981

Dear Colleagues:

As the old folks used to say: "I take pen in hand to tell you" that the North Carolina Medical Society must muster all possible strength toward developing real clout with the North Carolina Legislature. Since the Legislature convened in January 1981, I have almost made the Legislative Building my home and have read three newspapers daily. I, as well as others who have been there since January, am shocked at our lack of success with several major issues which will impact health care and the practice of medicine tremendously. By this time, you probably know that we were unsuccessful in our attempt to repeal the Optometric Drug Use Statute. Our ophthalmology colleagues have worked long and hard for this cause but to no avail. Their Repeal Bill was stashed in a subcommittee--never to see the light of day during this session. Those Legislators can surely know that we will be back--again and again--until that bill is repealed.

The Chiropractic Bill, to redefine the practice of Chiropractic, was substantially amended by the State Senate. After Senate passage, the amended bill was referred to a subcommittee of the House Health Committee where extensive testimony was heard from a variety of organizations, including the Medical Society. The subcommittee rewrote the bill into a proposed committee substitute. The committee substitute was adopted by the full House Health Committee. Unfortunately, the full committee, rather than give the committee substitute a favorable report, referred both the substitute and the original bill back to subcommittee where both will be considered during the 1982 Short Session of the General Assembly. While this does not constitute a defeat for the North Carolina Medical Society, we certainly cannot think of it as a victory. Colleagues, it is time for us to gather and re-group for the next round. PLEASE try to attend our Legislative Symposium at Myrtle Beach, October 30, 31, and November 1. We need your ideas and support. If we are to succeed, we need the active involvement of every member!

The membership of the North Carolina Medical Society IS the Society. A primary goal of this administration must be a major increase in our membership. Although the North Carolina Board of Medical Examiners assures us that there are 8,300 registered physicians with North Carolina addresses, the Society can boast of only 5,700 members, of which only 5,100 are full dues paying members. Consequently, some 3,000 physicians should be added to our membership. John W. Foust, M.D., First Vice-President and Chairman of Membership, is mounting a tremendous, energetic membership campaign which should continue through the years. John has already contacted all County Society Presidents, District Councilors, and Section Chairmen for information on known non-members. Please respond as quickly as possible in order that we may be prepared for an extensive membership drive in October and November. John, with the able assistance of Membership Secretary, Deanna Godwin, has worked tirelessly on this campaign and deserves the total cooperation of every one of us.

Sarah T. Morrow, M.D., Secretary, North Carolina Department of Human Resources, and Barbara D. Matula, Director, North Carolina Division of Medical Assistance, notified the North Carolina Medical Society that the Administration still has no knowledge as to the specific actions to be taken by Congress in regard to the Medicaid Program. For the past several months, Mrs. Matula has studied all of the options North Carolinamay be forced to take in the face of a markedly reduced Medicaid

budget. She invited four (4) representatives of each of the major health professional associations to meet with her to discuss these options on Wednesday, July 22, 1981. She stated that the options are "wide ranging and of varying degrees of severity". Representatives attending from the North Carolina Medical Society were Don Chaplin (Chairman, Committee on Legislation), John McCain (Chairman, Public Affairs Commission), Joe Russell (Chairman, Committee on Social Services Programs), and myself. We were told that Congress is now considering proposals which could result in a loss, to the North Carolina Medicaid Program, of from \$37 million to \$94 million, dependent on the adoption of one or more bills. Dr. Sarah T. Morrow and Mrs. Matula asked for the input of the major health professional organizations in choosing options. Because the State does not have the revenue in the State Budget to pickup the loss of these Federal dollars, the Medicaid Budget will be cut. Some of the options shown to us are:

1. Reduction of the number of recipients by elimination of coverage to the "medically needy" (Legislature seems to oppose)
2. Targeting services (Services of a limited nature to a specific group)
3. Limitations or elimination of some optional services
4. Co-payments on all services (North Carolina is now in the maximum of the Federal allowable co-payment range)
5. Family supplementation (Requirement that families contribute to the care of long-term care patients)
6. Hospital Day Limit
7. Physician Visit Limit
8. Prescription Limit
9. Drug Formulary
10. Limitation on the number of Long Term Care beds
11. Prior approval on all elective surgery
12. Lower or freeze reimbursement rates
13. Limitation of dental services

The above may not be a complete list but, at least, makes us aware that the problem is urgent. I'm afraid that the professional health organizations were of little assistance. If you have ideas as to how these cuts can be made in a manner which would be fair and equitable to providers, recipients, and taxpayers, please contact me immediately. Rest assured that I shall pass it on to those who must make the cuts. Early replies will allow us to incorporate your ideas into the response now being prepared.

On re-reading this despondent newsletter, I promise that the next one will be more cheerful. After all, the Legislature has gone home! Onward and upward!

My best to you and your family,


Josephine E. Newell, M.D.
President

PAIN AND TENSION....

Double fault for weekend warriors

FACE THE ACHE
with

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(meprobamate and ethoheptazine citrate with aspirin) Wyeth

Twofold analgesic action teamed with time-proven efficacy against concurrent anxiety and tension in patients with musculoskeletal disease.*

EQUAGESIC—Abbreviated Summary

INDICATIONS: Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FOA has classified the indications as follows:

"Possibly" effective for the treatment of pain accompanied by tension and/or anxiety in patients with musculoskeletal disease or tension headache.

Final classification of the less-than-effective indications requires further investigation.

The effectiveness of Equagesic in long-term use, i.e. more than four months, has not been assessed by systematic clinical studies. The physician should periodically reassess usefulness of the drug for the individual patient.

CONTRAINDICATIONS: Equagesic should not be given to individuals with a history of sensitivity or severe intolerance to aspirin, meprobamate, or ethoheptazine citrate.

WARNINGS: Careful supervision of dose and amounts prescribed for patients is advised, especially with those patients with known propensity for taking excessive quantities of drugs. Excessive and prolonged use in susceptible persons, e.g., alcoholics, former addicts, and other severe psychoneurotics, has been reported to result in dependence on or habituation to the drug. Where excessive dosage has continued for weeks or months, dosage should be reduced gradually rather than abruptly stopped, since withdrawal of a "crutch" may precipitate withdrawal reaction of greater proportions than that for which the drug was originally prescribed. Abrupt discontinuance of doses in excess of the recommended dose has resulted in some cases in the occurrence of epileptiform seizures.

Special care should be taken to warn patients taking meprobamate that tolerance to alcohol may be lowered with resultant slowing of reaction time and impairment of judgment and coordination.

USAGE IN PREGNANCY AND LACTATION: An increased risk of congenital malformations associated with the use

of minor tranquilizers (meprobamate, chlorthalidoxepide, and diazepam) during the first trimester of pregnancy has been suggested in several studies. Because use of these drugs is rarely a matter of urgency, their use during this period should almost always be avoided. The possibility that a woman of child-bearing potential may be pregnant at the time of institution of therapy should be considered. Patients should be advised that if they become pregnant during therapy or intend to become pregnant they should communicate with their physicians about the desirability of discontinuing the drug. Meprobamate passes the placental barrier. It is present both in umbilical-cord blood at or near maternal plasma levels and in breast milk of lactating mothers at concentrations two to four times that of maternal plasma. When use of meprobamate is contemplated in breast-feeding patients, the drug's higher concentration in breast milk as compared to maternal plasma levels should be considered.

Preparations containing aspirin should be kept out of the reach of children. Equagesic is not recommended for patients 12 years of age and under.

PRECAUTIONS: Should drowsiness, ataxia, or visual disturbance occur, the dose should be reduced. If symptoms continue, patients should not operate a motor vehicle or any dangerous machinery.

Suicidal attempts with meprobamate have resulted in coma, shock, vasomotor and respiratory collapse, and anuria. Very few suicidal attempts were fatal, although some patients ingested very large amounts of the drug (20 to 40 gm). These doses are much greater than recommended. The drug should be given cautiously, and in small amounts, to patients who have suicidal tendencies. In cases where excessive doses have been taken, sleep ensues rapidly and blood pressure, pulse, and respiratory rates are reduced to basal levels. Hyperventilation has been reported occasionally. Any drug remaining in the stomach should be removed and symptomatic treatment given. Should respiration become very shallow and slow, CNS stimulants, e.g., caffeine, Meclizol, or amphet-

amine, may be cautiously administered. If severe hypotension develops, pressor amines should be used parenterally to restore blood pressure to normal levels.

ADVERSE REACTIONS: A small percentage of patients may experience nausea with or without vomiting and epigastric distress. Oziness occurs rarely when meprobamate and ethoheptazine citrate with aspirin is administered in recommended dosage. The meprobamate may cause drowsiness but, as a rule, this disappears as therapy is continued. Should drowsiness persist and be associated with ataxia, this symptom can usually be controlled by decreasing the dose, but occasionally it may be desirable to administer central stimulants such as amphetamine or mephentermine sulfate concomitantly to control drowsiness.

A clearly related side effect to the administration of meprobamate is the rare occurrence of allergic or idiosyncratic reactions. This response develops, as a rule, in patients who have had only 1-4 doses of meprobamate and have not had a previous contact with the drug. Previous history of allergy may or may not be related to the incidence of reactions.

Mild reactions are characterized by an itchy urticarial or erythematous, maculopapular rash which may be generalized or confined to the groin. Acute nonthrombocytopenic purpura with cutaneous petechiae, ecchymoses, peripheral edema, and fever have also been reported.

More severe cases, observed only very rarely, may also have other allergic responses, including fever, tanning spells, angioneurotic edema, bronchial spasms, hypotensive crises (1 fatal case), anaphylaxis, stomatitis and proctitis (1 case), and hyperthermia. Treatment should be symptomatic such as administration of epinephrine, antihistamine, and possibly hydrocortisone. Meprobamate should be stopped, and reinstitution of therapy should not be attempted.

Rare cases have been reported where patients receiving meprobamate suffered from aplastic anemia (1 fatal case), thrombocytopenic purpura, agranulocytosis, and hemolytic anemia. In nearly every instance reported, other toxic agents known to have caused these conditions have been associated with meprobamate. A few cases of leukopenia during

continuous administration of meprobamate are reported; most of these returned to normal without discontinuation of the drug.

OVERDOSE: Two instances of accidental or intentional significant overdosage with ethoheptazine citrate combined with aspirin have been reported. These were accompanied by symptoms of CNS depression, including drowsiness and light-headedness, with uneventful recovery. However, on the basis of pharmacological data, it may be anticipated that CNS stimulation could occur. Other anticipated symptoms would include nausea and vomiting. Appropriate therapy of signs and symptoms as they appear is the only recommendation possible at this time. Overdosage with ethoheptazine combined with aspirin would probably produce the usual symptoms and signs of salicylate intoxication. Observation and treatment should include induced vomiting or gastric lavage, specific parenteral electrolyte therapy for ketoacidosis and dehydration, watching for evidence of hemorrhagic manifestations due to hypoprothrombinemia which, if it occurs, usually requires whole-blood transfusions.

DESCRIPTION: Each Equagesic tablet contains 150 mg meprobamate, 75 mg ethoheptazine citrate and 250 mg aspirin.

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*This drug has been evaluated as possibly effective for this indication.

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Down with pain

Step up to reliable relief

for mild to moderate pain

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(65 mg propoxyphene HCl and 650 mg acetaminophen) Wyeth

More than twice as much acetaminophen as the leading combination plus a full therapeutic dose of propoxyphene...all in a convenient, economical single tablet.

WYGESIC—Abbreviated Summary

INDICATION: For the relief of mild-to-moderate pain.

CONTRAINDICATION: Hypersensitivity to propoxyphene or to acetaminophen.

WARNINGS: CNS ADDITIVE EFFECTS AND OVER-

DOSEAGE: Propoxyphene in combination with alcohol, tranquilizers, sedative-hypnotics or other CNS depressants has an additive depressant effect. Patients taking this drug should be advised of the additive effect and warned not to exceed the dosage recommended. Toxic effects and fatalities have occurred following overdoses of propoxyphene alone or in combination with other CNS depressants. Most of these patients had histories of emotional disturbances or suicidal ideation or attempts, as well as misuse of tranquilizers, alcohol or other CNS-active drugs. Caution should be exercised in prescribing large amounts of propoxyphene for such patients (see Management of Overdosage).

ORUG DEPENDENCE: Propoxyphene can produce drug dependence characterized by psychic dependence and less frequently physical dependence and tolerance. It will only partially suppress the withdrawal syndrome in individuals physically dependent on morphine or other narcotics. The abuse liability of propoxyphene is qualitatively similar to codeine's although quantitatively less, and propoxyphene should be prescribed with the same degree of caution appropriate to the use of codeine.

USAGE IN AMBULATORY PATIENTS: Propoxyphene may impair the mental and/or physical abilities required for potentially hazardous tasks, e.g. driving a car or operating machinery. Patients should be cautioned accordingly.

USAGE IN PREGNANCY: Safe use in pregnancy has not been established relative to possible adverse effects on fetal development. INSTANCES OF WITHDRAWAL SYMPTOMS IN THE NEONATE HAVE BEEN REPORTED FOLLOWING USAGE DURING PREGNANCY. Therefore propoxyphene should not be used in pregnant women unless in the

judgement of the physician, the potential benefits outweigh the possible hazards.

USAGE IN CHILDREN: Propoxyphene is not recommended for children because documented clinical experience has been insufficient to establish safety and a suitable dosage regimen in the pediatric group.

PRECAUTIONS: Confusion, anxiety, and tremors have been reported in a few patients receiving propoxyphene concomitantly with orphenadrine. The CNS depressant effect of propoxyphene may be additive with other CNS depressants including alcohol.

ADVERSE REACTIONS: The most frequent adverse reactions are dizziness, sedation, nausea, and vomiting. These seem more prominent in ambulatory than in nonambulatory patients, some of these reactions may be alleviated if the patient lies down.

Other adverse reactions include constipation, abdominal pain, skin rashes, light-headedness, headache, weakness, euphoria, dysphoria, and minor visual disturbances. The chronic ingestion of propoxyphene in doses over 800 mg per day has caused toxic psychoses and convulsions. Cases of liver dysfunction have been reported.

DRUG INTERACTIONS: Propoxyphene in combination with alcohol, tranquilizers, sedative-hypnotics, and other CNS depressants has an additive depressant effect. Patients taking this drug should be advised of the additive effect and warned not to exceed the dosage recommended (see Warnings).

Confusion, anxiety, and tremors have been reported in a few patients receiving propoxyphene concomitantly with orphenadrine.

MANAGEMENT OF OVERDOSEAGE: SYMPTOMS. The manifestations of serious overdose with propoxyphene are similar to those of narcotic overdose and include respiratory depression (a decrease in respiratory rate and/or tidal volume, Cheyne-Stokes respiration, cyanosis), extreme somnolence progressing to stupor or coma, pupillary constriction and circulatory collapse. In addition to these characteristics which are reversed by narcotic antago-

nists such as naloxone, there may be other effects. Overdoses of propoxyphene can cause delay of cardiac conduction as well as focal or generalized convulsions, a prominent feature in most cases of severe poisoning. Cardiac arrhythmias and pulmonary edema have occasionally been reported and apnea, cardiac arrest and death have occurred.

Symptoms of massive overdose with acetaminophen may include nausea, vomiting, anorexia, and abdominal pain, beginning shortly after ingestion and lasting for 12 to 24 hours. However, early recognition may be difficult since early symptoms may be mild and nonspecific. Evidence of liver damage is usually delayed. After the initial symptoms, the patient may feel less ill, however, laboratory determinations are likely to show a rapid rise in liver enzymes and bilirubin. In case of serious hepatotoxicity (jaundice, coagulation defects, hypoglycemia, encephalopathy, coma, and death may follow. Renal failure due to tubular necrosis, and myocardialopathy, have also been reported.

Ingestion of 10 grams or more of acetaminophen may produce hepatotoxicity. A 13-gram dose has reportedly been fatal.


TREATMENT: Primary attention should be given to the reestablishment of adequate respiratory exchange through provision of a patent airway and institution of assisted or controlled ventilation. The narcotic antagonists naloxone, nalorphine, and levallorphan are specific antidotes against the respiratory depression produced by propoxyphene. An appropriate dose of one of these antagonists should be administered preferably I.V., simultaneously with efforts at respiratory resuscitation and the antagonist should be repeated as necessary until the patient's condition remains satisfactory. In addition to a narcotic antagonist, the patient may require careful titration with an anticonvulsant to control seizures. Analeptic drugs (e.g. caffeine or amphetamine) should not be used because of their tendency to precipitate convulsions.

Oxygen, IV fluids, vasopressors and other supportive measures should be used as indicated. Gastric lavage may be helpful. Activated charcoal can absorb a significant amount of ingested propoxyphene. Dialysis is of little value in poisoning by propoxyphene alone. Acetaminophen is rapidly absorbed, and efforts to remove the drug from the body should not be delayed. Copious gastric lavage and/or induction of emesis may be indicated. Activated charcoal is probably ineffective unless administered almost immediately after acetaminophen ingestion. Neither forced diuresis nor hemodialysis appears to be effective in removing acetaminophen. Since acetaminophen in overdose may have an antidiuretic effect and may produce renal damage, administration of fluids should be carefully monitored to avoid overload. It has been reported that mercaptamine (cysteine) or other thiol compounds may protect against liver damage if given soon after overdose (8-10 hours). N-acetylcysteine is under investigation as a less toxic alternative to mercaptamine, which may cause anorexia, nausea, vomiting, and drowsiness. Appropriate literature should be consulted for further information (JAMA 237:2406-2407, 1977).

Clinical and laboratory evidence of hepatotoxicity may be delayed up to one week. Acetaminophen plasma levels and half-life may be useful in assessing the likelihood of hepatotoxicity. Serial hepatic enzyme determinations are also recommended.

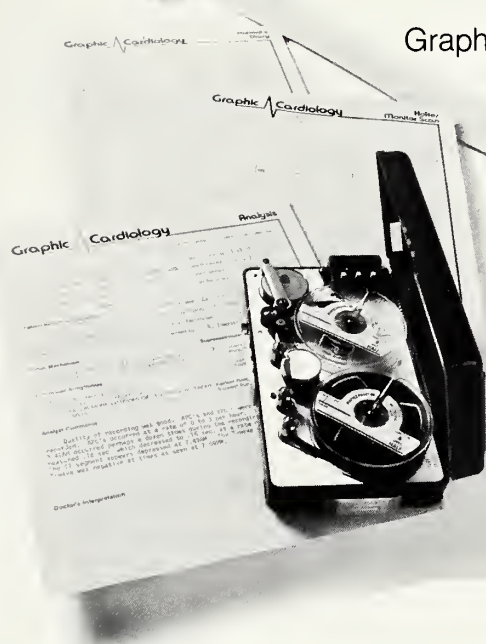
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An added complication... in the treatment of bacterial bronchitis*

Increasing incidence
of ampicillin resistance in
Haemophilus influenzae

Ampicillin Resistant
Haemophilus influenzae

H. influenzae

S. pneumoniae

Brief Summary.
Consult the package literature for prescribing information.

Indications and Usage: Cefclor* (cefclor, Lilly) is indicated in the treatment of the following infections when caused by susceptible strains of the designated microorganisms:

Lower respiratory infections, including pneumonia caused by *Streptococcus pneumoniae* (*Diplococcus pneumoniae*), *Haemophilus influenzae*, and *S. pyogenes* (group A beta-hemolytic streptococci)

Appropriate culture and susceptibility studies should be performed to determine susceptibility of the causative organism to Cefclor

Contraindication: Cefclor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics

Warnings: IN PENICILLIN-SENSITIVE PATIENTS, CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY. THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS, AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIONS TO BOTH DRUG CLASSES (INCLUDING ANAPHYLAXIS AFTER PARENTERAL USE).

Antibiotics, including Cefclor, should be administered cautiously to any patient who has demonstrated some form of allergy, particularly to drugs

Precautions: If an allergic reaction to cefclor occurs, the drug should be discontinued, and, if necessary, the patient should be treated with appropriate agents, e.g., pressor amines, antihistamines, or corticosteroids

Prolonged use of cefclor may result in the overgrowth of nonsusceptible organisms. Careful observation of the patient is essential. If superinfection occurs during therapy, appropriate measures should be taken

Positive direct Coombs tests have been reported during treatment with the cephalosporin antibiotics. In hematology studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coombs testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs test may be due to the drug

Cefclor should be administered with caution in the presence of markedly impaired renal function. Under such a condition, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended

As a result of administration of Cefclor, a false-positive reaction for glucose in the urine may occur. This has been observed with Benedict's and Fehling's solutions and also with Clinitest® tablets but not with Tes-Tape® (Glucose Enzymatic Test Strip, USP, Lilly)

Usage in Pregnancy: Although no teratogenic or antifertility effects were seen in reproduction studies in mice and rats receiving up to 12 times the maximum human dose or in ferrets given three times the maximum human dose, the safety of this drug for use in human pregnancy has not been established. The benefits of the drug in pregnant women should be weighed against a possible risk to the fetus

Usage in Infancy: Safety of this product for use in infants less than one month of age has not been established

Some ampicillin-resistant strains of *Haemophilus influenzae*—a recognized complication of bacterial bronchitis*—are sensitive to treatment with Cefclor.¹⁻⁶

In clinical trials, patients with bacterial bronchitis due to susceptible strains of *Streptococcus pneumoniae*, *H. influenzae*, *S. pyogenes* (group A beta-hemolytic streptococci), or multiple organisms achieved a satisfactory clinical response with Cefclor.⁷

Cefclor®

cefclor

Pulvules®, 250 and 500 mg

Adverse Reactions: Adverse effects considered related to cefclor therapy are uncommon and are listed below. Gastrointestinal symptoms occur in about 2.5 percent of patients and include diarrhea (1 in 70) and nausea and vomiting (1 in 90)

Hypersensitivity reactions have been reported in about 1.5 percent of patients and include morbilliform eruptions (1 in 100). Pruritus, urticaria, and positive Coombs tests each occur in less than 1 in 200 patients. Cases of serum-sickness-like reactions, including the above skin manifestations, fever, and arthralgia/arthritis, have been reported. Anaphylaxis has also been reported

Other effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients)

Causal Relationship Uncertain: Transitory abnormalities in clinical laboratory test results have been reported. Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician

Hepatic: Slight elevations in SGOT, SGPT, or alkaline phosphatase values (1 in 40)

Hematopoietic: Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40)

Renal: Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200)

*Many authorities attribute acute infectious exacerbation of chronic bronchitis to either *S. pneumoniae* or *H. influenzae*

Note: Cefclor* (cefclor) is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever. See prescribing information

References

1. Antimicrob. Agents Chemother., 8: 91, 1975
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6. Antimicrob. Agents Chemother., 13: 861, 1978
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8. Principles and Practice of Infectious Diseases (edited by G. L. Mandell, R. G. Douglas, Jr., and J. E. Bennett), p. 487. New York: John Wiley & Sons, 1975

Lilly

Additional information available to the profession on request from Eli Lilly and Company, Indianapolis, Indiana 46285
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Carolina, Puerto Rico 00630

for Knotts in the night

Prescribe new formula

Quinamm*

(quinine sulfate tablets)

each tablet contains quinine sulfate 260 mg



Specific therapy for painful night leg cramps

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Nocturnal recumbency leg muscle cramping is frequently an unwelcome bedfellow for many patients—especially those with arthritis, diabetes, or peripheral vascular disease... consider Quinamm... simple, convenient dosage—usually just one tablet at bedtime... can provide restful, welcome sleep without night leg cramps.

Quinamm™ (quinine sulfate tablets)

CAUTION: Federal law prohibits dispensing without prescription.
EF SUMMARY

INDICATIONS AND USAGE

For the prevention and treatment of nocturnal recumbency leg muscle cramps.

CONTRAINDICATIONS

Quinamm may cause fetal harm when administered to a pregnant woman. Significant malformations in the human have been reported with the use of quinine, primarily with large doses (up to 30 g) for attempted abortion. In about 10% of these reports the malformation was deafness related to auditory nerve aplasia. Among the other abnormalities reported were limb anomalies, visual defects, and visual changes. In animal tests, teratogenic effects were found in rabbits and guinea pigs and were absent in mice, rats, dogs, and monkeys. Quinamm is contraindicated in women who are or may become pregnant. If this drug is used during pregnancy, or if the patient becomes pregnant while taking this drug, the patient should be apprised of the potential hazard to the fetus. Because of the quinine content, Quinamm is contraindicated in patients with known quinine hypersensitivity and in patients with glucose 6-phosphate dehydrogenase (G-6-PD) deficiency.

Idiosyncratic thrombocytopenic purpura may follow the administration of quinine in highly sensitive patients; a history of this occurrence associated with previous quinine ingestion contraindicates its further use. Recovery usually occurs following withdrawal of the medication and appropriate therapy.

Quinine should not be used in patients with tinnitus or optic neuritis or in patients with a history of blackwater fever.

WARNINGS

Repeated doses or overdosage of quinine in some individuals may precipitate a series of symptoms referred to as cinchonism. Such symptoms, in the mildest form, include ringing in the ears, headache, nausea, and slightly disturbed vision. However, when medication is continued or after large single doses, symptoms also involve the gastrointestinal tract, the nervous and cardiovascular systems, and the skin.

Cinchonism (with the potential for hemolytic anemia) has been associated with the use of quinine in patients taking quinine. Quinamm should be stopped immediately if evidence of hemolysis appears.

When symptoms occur, drug should be discontinued and supportive measures instituted. In case of overdosage, see OVERDOSAGE section of prescribing information.

PRECAUTIONS

Quinamm should be discontinued if there is any evidence of hypersensitivity. (See CONTRAINDICATIONS.) Cutaneous flushing, pruritus, skin rashes, fever, chills, distress, dyspnea, ringing in the ears, and visual impairment are the usual expressions of hypersensitivity, particularly if only small doses of quinine

have been taken. Extreme flushing of the skin accompanied by intense, generalized pruritus is the most common form. Hemoglobinuria and asthma from quinine are rare types of idiosyncrasy.

In patients with atrial fibrillation, the administration of quinine requires the same precautions as those for quinidine. (See Drug Interactions.)

Drug Interactions

Increased plasma levels of digoxin and digitoxin have been demonstrated in individuals after concomitant quinine administration. Because of possible similar effects from use of quinine, it is recommended that plasma levels for digoxin and digitoxin be determined for those individuals taking these drugs and Quinamm concomitantly.

Concurrent use of aluminum-containing antacids may delay or decrease absorption of quinine.

Cinchona alkaloids, including quinine, have the potential to depress the hepatic enzyme system that synthesizes the vitamin K-dependent factors. The resulting hypoprothrombinemic effect may enhance the action of warfarin and other oral anticoagulants.

The effects of neuromuscular blocking agents (particularly pancuronium, succinylcholine, and tubocurarine) may be potentiated with quinine, and result in respiratory difficulties.

Urine alkalinizers (such as acetazolamide and sodium bicarbonate) may increase quinine blood levels with potential for toxicity.

Drug Laboratory Interactions

Quinine may produce an elevated value for urinary 17-ketogenic steroids when the Zimmerman method is used.

Carcinogenesis, Mutagenesis, Impairment of Fertility

A study of quinine sulfate administered in drinking water (0.1%) to rats for periods up to 20 months showed no evidence of neoplastic changes. Mutation studies of quinine (dihydrochloride) in male and female mice gave negative results by the micronucleus test. Intraperitoneal injections (0.5 mM/kg.) were given twice, 24 hours apart. Direct *Salmonella typhimurium* tests were negative; when mammalian liver homogenate was added, positive results were found.

No information relating to the effect of quinine upon fertility in animal or in man has been found.

Pregnancy

Category X. See CONTRAINDICATIONS.

Nonteratogenic Effects

Because quinine crosses the placenta in humans, the potential for fetal effects is present. Stillbirths in mothers taking quinine have been reported in which no obvious cause for the fetal deaths was shown. Quinine in toxic amounts has been associated with abortion. Whether this action is always due to direct effect on the uterus is questionable.

Nursing Mothers

Caution should be exercised when Quinamm is given to nursing women because quinine is excreted in breast milk (in small amounts).

ADVERSE REACTIONS

The following adverse reactions have been reported with Quinamm in therapeutic or excessive dosage. (Individual or multiple symptoms may represent cinchonism or hypersensitivity.)

Hematologic: acute hemolysis, thrombocytopenic purpura, agranulocytosis, hypoproliferative anemia.

CNS: visual disturbances, including blurred vision with scotomata, photophobia, diplopia, diminished visual fields, and disturbed color vision. Innuitus, deafness, and vertigo, headache, nausea, vomiting, fever, apprehension, restlessness, confusion, and syncope.

Dermatologic/allergic: cutaneous rashes (urticarial, the most frequent type of allergic reaction; papular or scarlatinous), pruritus, flushing of the skin, sweating, occasional edema of the face.

Respiratory: asthmatic symptoms.

Cardiovascular: anginal symptoms.

Gastrointestinal: nausea and vomiting (may be CNS-related), epigastric pain.

DRUG ABUSE AND DEPENDENCE

Tolerance, abuse, or dependence with Quinamm has not been reported.

OVERDOSAGE

See prescribing information for a discussion on symptoms and treatment of overdose.

DOSEAGE AND ADMINISTRATION

1 tablet upon retiring. If needed, 2 tablets may be taken nightly—1 following the evening meal and 1 upon retiring.

After several consecutive nights in which recumbency leg cramps do not occur, Quinamm may be discontinued in order to determine whether continued therapy is needed.

Product Information as of October, 1980

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Although weight loss achieved in a weight control program varies from patient to patient, this simulated sequence of a professional model illustrates dramatically the benefits of a successful weight loss program.



getting there...

...takes dietary restriction, regular exercise,
behavior modification, and sometimes
the addition of an effective anorectic.

prescribe

Tenuate^{*} Dospan^{*} ^{IV} (diethylpropion hydrochloride USP)

25 mg controlled-release tablets

The #1 prescribed anorectic

An effective short-term adjunct
in an indicated weight loss
program

Overweight patients in certain diagnostic categories
often require strict obesity control. Diethylpropion
hydrochloride has been reported useful in obese
patients with certain complications. While it is not sug-
gested that Tenuate in any way reduces these compli-
cations in the overweight, it may have a useful place
as a short-term adjunct in a prescribed dietary regi-
men. Tenuate should not be administered to patients
with severe hypertension; see additional Precautions
and Adverse Reactions on this page.

in uncomplicated obesity

Many patients, on the other hand, present with excess
fat but no disease. While this condition is often termed
uncomplicated obesity, complications of both a social
and a psychologic nature may be distressingly real for
these patients. In these cases, a short-term regimen of
Tenuate can help reinforce your dietary counsel dur-
ing the important early weeks of an indicated weight
loss program.

Clinical effectiveness

The anorectic effectiveness of diethylpropion hydro-
chloride is well documented. No less than 18 separate
double-blind, placebo-controlled studies attest to its
usefulness in daily practice.¹ And the unique chemistry
of Tenuate provides "...anorectic potency with mini-
mal overt central nervous system or cardiovascular
stimulation."² Compared with the amphetamines,
diethylpropion has minimal potential for abuse.

Tenuate—it makes sense.
And it's responsible medicine.

Merrell Dow

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References: 1. Citations available on request from Merrell Dow Pharmaceuticals Inc., Cincinnati,
Ohio 45215. 2. Hoekenga M T et al: A comprehensive review of diethylpropion hydrochloride.
In Central Mechanisms of Anorectic Drugs, S Garattini and R Samanin, Ed., New York.
Raven Press, 1978, pp. 391-404.

Tenuate[®] ^{IV}
(diethylpropion hydrochloride USP)

Tenuate Dospan[®] ^{IV}
(diethylpropion hydrochloride USP)
controlled-release

AVAILABLE ONLY ON PRESCRIPTION

Brief Summary

INDICATION: Tenuate and Tenuate Ospan are indicated in the management of exogenous obesity
as a short-term adjunct (a few weeks) in a regimen of weight reduction based on caloric restric-
tion. The limited usefulness of agents of this class should be measured against possible risk fac-
tors inherent in their use such as those described below.

CONTRAINDICATIONS: Advanced arteriosclerosis, hyperthyroidism, known hypersensitivity, or
idiosyncrasy to the sympathomimetic amines, glaucoma. Agitated states. Patients with a history
of drug abuse. During or within 14 days following the administration of monoamine oxidase in-
hibitors, (hypertensive crises may result).

WARNINGS: If tolerance develops, the recommended dose should not be exceeded in an attempt
to increase the effect, rather, the drug should be discontinued. Tenuate may impair the ability of
the patient to engage in potentially hazardous activities such as operating machinery or driving a
motor vehicle; the patient should therefore be cautioned accordingly. When central nervous sys-
tem active agents are used, consideration must always be given to the possibility of adverse in-
teractions with alcohol. **Drug Dependence:** Tenuate has some chemical and pharmacologic
similarities to the amphetamines and other related stimulant drugs that have been extensively
abused. There have been reports of subjects becoming psychologically dependent on diethyl-
propion. The possibility of abuse should be kept in mind when evaluating the desirability of in-
cluding a drug as part of a weight reduction program. Abuse of amphetamines and related drugs
may be associated with varying degrees of psychologic dependence and social dysfunction
which, in the case of certain drugs, may be severe. There are reports of patients who have in-
creased the dosage to many times that recommended. Abrupt cessation following prolonged
high dosage administration results in extreme fatigue and mental depression; changes are also
noted on the sleep EEG. Manifestations of chronic intoxication with anorectic drugs include se-
vere dermatoses, marked insomnia, irritability, hyperactivity, and personality changes. The most
severe manifestation of chronic intoxications is psychosis, often clinically indistinguishable from
schizophrenia. **Use in Pregnancy:** Although rat and human reproductive studies have not in-
dicated adverse effects, the use of Tenuate by women who are pregnant or may become pregnant
requires that the potential benefits be weighed against the potential risks. **Use in Children:**
Tenuate is not recommended for use in children under 12 years of age.

PRECAUTIONS: Caution is to be exercised in prescribing Tenuate for patients with hypertension
or with symptomatic cardiovascular disease, including arrhythmias. Tenuate should not be ad-
ministered to patients with severe hypertension. Insulin requirements in diabetes mellitus may be
altered in association with the use of Tenuate and the concomitant dietary regimen. Tenuate may
decrease the hypotensive effect of guanethidine. The least amount feasible should be prescribed
or dispensed at one time in order to minimize the possibility of overdose. Reports suggest that
Tenuate may increase convulsions in some epileptics. Therefore, epileptics receiving Tenuate
should be carefully monitored. Titration of dose or discontinuance of Tenuate may be necessary.

ADVERSE REACTIONS: **Cardiovascular:** Palpitation, tachycardia, elevation of blood pressure,
precordial pain, arrhythmia. One published report described T-wave changes in the ECG of a
healthy young male after ingestion of diethylpropion hydrochloride. **Central Nervous System:**
Overstimulation, nervousness, restlessness, dizziness, jitteriness, insomnia, anxiety, euphoria,
depression, dysphoria, tremor, dyskinesia, mydriasis, drowsiness, malaise, headache, rarely
psychotic episodes at recommended doses. In a few epileptics an increase in convulsive epi-
sodes has been reported. **Gastrointestinal:** Dryness of the mouth, unpleasant taste, nausea,
vomiting, abdominal discomfort, diarrhea, constipation, other gastrointestinal disturbances.
Allergic: Urticaria, rash, ecchymosis, erythema. **Endocrine:** Impotence, changes in libido,
gynecomastia, menstrual upset. **Hematopoietic System:** Bone marrow depression, agranulo-
cytosis, leukopenia. **Miscellaneous:** A variety of miscellaneous adverse reactions has been
reported by physicians. These include complaints such as dyspnea, hair loss, muscle pain,
dysuria, increased sweating, and polyuria.

DOSSAGE AND ADMINISTRATION: Tenuate (diethylpropion hydrochloride): One 25 mg. tablet
three times daily, one hour before meals, and in mid-evening if desired to overcome night hunger.
Tenuate Ospan (diethylpropion hydrochloride) controlled-release: One 75 mg. tablet daily, swal-
lowed whole, in mid-morning. Tenuate is not recommended for use in children under 12 years
of age.

OVERDOSSAGE: Manifestations of acute overdosage include restlessness, tremor, hyperreflexia,
rapid respiration, confusion, assaultiveness, hallucinations, panic states. Fatigue and depression
usually follow the central stimulation. Cardiovascular effects include arrhythmias, hypertension
or hypotension and circulatory collapse. Gastrointestinal symptoms include nausea, vomiting,
diarrhea, and abdominal cramps. Overdose of pharmacologically similar compounds has re-
sulted in fatal poisoning, usually terminating in convulsions and coma. Management of acute
Tenuate intoxication is largely symptomatic and includes lavage and sedation with a barbiturate.
Experience with hemodialysis or peritoneal dialysis is inadequate to permit recommendation in
this regard. Intravenous phenolamine (Regitine[®]) has been suggested on pharmacologic
grounds for possible acute, severe hypertension, if this complicates Tenuate overdosage.

Product Information as of June, 1980

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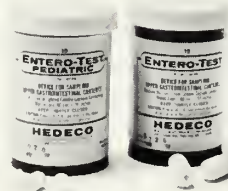
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Rosenthal and Leibman studied 23 pediatric patients with diarrhea. All had one or more negative stools. Of these, 5 patients had *Giardia lamblia*

which was diagnosed by the simple ENTERO-TEST® procedure. Lopez and co-workers diagnosed Giardiasis in 22 patients with the ENTERO-TEST® compared to 4 patients by stool exams. ENTERO-TEST® has proved to be a useful and effective method for the localization of upper GI bleeding, and the diagnosis of Typhoid carriers, strongyloidiasis and other parasitic diseases.

References:

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PRESIDENT'S ACCEPTANCE SPEECH

JOSEPHINE E. NEWELL, M.D.

Josephine E. Newell, M.D., F.A.A.F.P. Born May 21, 1925. Educated Dreher High School, Columbia, S.C., University of South Carolina, University of Maryland School of Medicine. Internships, Women's Hospital, Baltimore, Md., and Rex Hospital, Raleigh, N.C., 1951-1975. Present position, medical director, Electronic Data Systems Federal Corp., Raleigh. Professional affiliations: President, vice president, secretary-treasurer and board of censors, Wilson County Medical Society; convention and education commission chairman, scientific exhibits chairman, auxiliary advisory chairman, finance consultant, cancer consultant, first vice president, president elect and president, N.C. Medical Society; chairman of annual session, N.C. Academy of Family Practice; chairman, Wilson Memorial Hospital Symposium; fellow, American Academy of Family Practice; American Medical Association. Founder and president, Country Doctor Museum. Coordinator, Breast Cancer Detection Demonstration Project, Durham (1975-79), associate, Department of Radiology, Duke University Medical Center (1976-79), associate, Department of Community and Family Medicine, Duke University Medical Center (1975-79); adjunct assistant professor of community and family medicine, Duke University Medical Center, 1979-continuing.

Good evening. As usual, I'm flattered to be seated up here with all these distinguished ladies and gentlemen — presidents and past-presidents of both the North Carolina Medical Society and its auxiliary. One would think that I would be familiar with this place. For years and years, I have sat on one side or the other of these two tables. Once or twice I've mastered the ceremony — I may have just invented that phrase, but you know that a "career old maid" would never admit to "mistressing" anything. Then, I've been a vice-president, president-elect and one thing or another. Matter-of-fact, I think my name is painted on the bottom of one of these chairs — probably, so I can claim my own chewing gum — well, I didn't think that I was one bit nervous — until — Past-president George Gilbert pointed out that, tonight, I'm sitting in the "fingered" chair! "Miss Manners" would never believe or smile on the unspeakable gesture which accompanied *that* remark!

For a while there, I thought I had been moved up on the program. Ol' Ben Warren leaned over and said, "Jo, should we let 'em enjoy their dessert and coffee — or do you want to go ahead with your speech?"

I truly am serious about my message to you tonight. Finally, my opportunity has come to publicly express the depth of my gratitude for the tremendous honor which you have bestowed upon me, by electing me president of the North Carolina Medical Society. In truth, there is no appropriate language which can properly express either my deep appreciation or the profound sense of humility which I feel, this very

instant, and which has been my constant companion for the 12 months in which I have known that, tonight, I would assume an awesome responsibility — president of the North Carolina Medical Society.

It's the custom to introduce one's family before making this acceptance speech to the society. Since my few blood relatives live far away from Pinehurst, I have always considered the members of this society to be my *real* family. So, while it would not do for me to introduce you to each other, you have, in a very real sense, been my family; and the welfare and future of this society have been my avocation for the last 30 years.

I have been reminded that I am the society's first "lady" president. I never really thought myself unusual because I am a woman and practiced medicine. The state of one's sex (if you will pardon the expression) is neither a hindrance nor a help. I like to feel that I have paid my dues and made my contribution — whatever it might be — as has each of you. I am honored that you have elected me your president.

The North Carolina Medical Society does have problems. There are some old ones left over from earlier times, some new ones that have appeared this last year, and, I am certain, there will be even more problems to go with these confused and changing times.

We have just finished a management survey of the needs and the capabilities of our headquarters staff. The first information our survey team asked was: "What purpose does the medical society serve?" Why do members join our ranks? What services do we offer them? In other words, what do physicians expect when they pay their dues, and — most important of all — what do we supply them? It may appear to be a foolish question, but Peter Drucker, the father of modern day management science, once noted: "The most important question any organization has to answer is 'what do we really *do* here?'"

When beset on every side by yet another threat which endangers the very foundation of our basic beliefs and our concept of the ethical practice of medicine, some of our members have entertained different philosophies. Certainly, this is not unexpected in an organization of educated people who are highly trained to think, reason and "make judgments" every hour of the day. I am grateful that our society provides a democratic forum where we may come together and reason with each other concerning these philosophical differences. I believe that we share an invincible common goal — the best possible medical care for every person whom we encounter.

Unlike Hippocrates, we can no longer confine ourselves to the pure practice of medicine. We have been forced into a world of politics, with which we are unfamiliar. When America was first settled, physicians accepted roles as politicians, statesmen, soldiers, teachers and even ministers. They comprised a great number of the "Founding Fathers." Perhaps the time has come when physicians must again take up

such a mantle. For the past two decades, we have been so engrossed in technological advancement and rapid changes in medical care that we have been content to allow others, who were willing, to manage civic affairs which are vital to every citizen of this great nation. We must maintain the search for truth in our world. We must, again, assume leadership roles in our community. Rousseau said: "As soon as public service ceases to be the chief business of the citizens, and they would rather serve with their money than their persons, then the state is not far from its fall."

We must hold fast to the fellowship that physicians have known since the beginning of time. There must be no dissension among us. We must be united in our compelling drive to retain for our patients the best health care ever known to any civilization.

Now, friends — I want to assure you that I am going to honor all of the promises I make tonight. However, I would appreciate it if Gloria Graham, Sarah Morrow and Marshall Redding would *stop* taking notes.

We must address the subject of *membership*. When the census was taken last year, I filled my form out in Raleigh. I understood the directions to say "Where are you sleeping tonight?" A leading question — and I'm sorry to say that my answer could in no way be provocative — more's the pity. Of course, two or three of those forms were left at my house in Bailey — and at the Museum. I went to the mayor to return all the extras and he told me that the population count had remained the same in Bailey, as with the last census. I just couldn't understand how that could happen with all those babies being born. (Bailey has been known as a sexy place, to those who don't know any better.) Well, the mayor explained, "Every time a new baby is born, some fellow has to leave town!" Well, so it must be with our medical society. In the past several years, growth of our membership has not kept pace with the great influx of physicians entering practice in North Carolina. I intend to appoint an ad hoc committee to address this problem and, tonight, I challenge the incoming officers of this society, the Executive Council, the House of Delegates and every member of the North Carolina Medical Society to join me in an effort to personally contact every new physician in every community in North Carolina with a warm, sincere invitation to join our fellowship. While we, as individuals, may disagree with some of the positions taken by our county, state and national medical organizations, we must never forget that our House of Delegates is the deliberative body which formulates the policies governing the practice of medicine in North Carolina. One must be a member of any organization in order to participate in its deliberations.

Tom Paine admonished us: "Those who expect to reap the benefits of freedom must, like men and women, undergo the fatigue of supporting it."

I would urge you to reinstitute district meetings for the purpose of nominating your councilors when appropriate, and just as important, to consider the socio-economic problems which impact the practice of medicine. Unity is influence. I believe that it is our

duty to influence, through education, our political leaders, in the best interest of health care of Americans.

I have met with the president-elect and vice presidents of our society. We share the belief that the *membership* is the North Carolina Medical Society. We are united in our determination to increase membership in order that our society will continue, not only as the recognized voice of practicing physicians in North Carolina, but also as an outspoken power for the best interests of all North Carolinians.

The president-elect, vice presidents and I stand ready to visit with county societies and district societies to bring the message of this administration to the membership. The message is unity. Unity through fellowship and open discussion of our mutual problems and our mutual ambitions.

Now, there may be as many opinions as to the purpose this society serves — or should serve — as there are people in this room. To me, the North Carolina Medical Society has represented fellowship, an opportunity to gather with colleagues and discuss those problems which face us all, and even an opportunity to disagree and argue about how we can best face those problems and solve them. To do that effectively, I am convinced we must listen carefully to all our members, and once we have a consensus, we must move together. We are too few in number to be effective as individuals. We must give to our members some dim perception that — while we are not slaying many dragons — we are surely wearing their armor, carrying their sword, and trying to carry out their wishes. Our failure to enlist a proportionate number of new doctors into our ranks persuades me that we have not managed to get that message across very well.

I like the story about the Jewish sergeant during the first Israeli-Arab war who was stopped by an officer as he ran — alone — toward the battlefield. Asked where he was going he replied, "My men wanted to attack, but I felt we should wait another few minutes. Now they have gone ahead without me and I must catch up — because my place is at the head of the column." I intend to find out where the members of this society wish us to go. I want to find out what priorities you have. Then we must sit down and hammer out any differences that exist, and we will try to move out together. If my personal feelings are at odds with the final decision, like the sergeant in the story, I intend to run, as fast as I can, because I feel my position — like his — is at the head of the column.

You do me great honor by entrusting this society to my leadership for the coming year. I will need your help, your good will, and your affection. In return I shall give you my very best effort.

St. Paul advised the Thessalonians: "Hold fast to that which is good." We shall hold fast to the North Carolina Medical Society because it is good.

Thank you for the honor and the privilege to serve as president of the nicest people I know — the membership of the North Carolina Medical Society.

Acceptance remarks, Pinehurst, N.C., May 9, 1981.



Josephine E. Newell, M.D.
President, North Carolina Medical Society

Prescription Medication in the Workplace

Occupational Absenteeism, Accidents, and Performance When Using Non-Psychoactive and Psychoactive Medication

Richard C. Proctor, M.D.

ABSTRACT A survey of 2,200 employees of three manufacturing firms investigated the effect of prescription medication (particularly psychoactives) on occupational safety, absenteeism and job performance. Questionnaires completed by 762 employees showed no statistically significant difference in performance, accidents or days out regardless of the type of prescription product used. Furthermore, psychoactive medications did not appear to introduce a significantly greater occupational liability than any other group of prescription products.

OVER the past several years, numerous articles have appeared in every form of lay media on stress and anxiety in the workplace. The final toll of severe stress of this type is often enormous both economically in terms of absenteeism, accidents and poor performance, and physically in the development of organic and emotional illness and alcoholism. Psychoactive medications, mainly of the minor tranquilizer class and most often in the form of diazepam, have generally been the treatment of choice for this emotional distress. Now this ther-

apy is also coming under criticism in the same lay media.¹⁻³ Articles containing charges of tranquilizer overuse and misuse may also present anecdotal case histories in which use of this type of medication resulted in a reduction of mental acuity and performance. However, a review of the scientific literature turns up few studies which have actually evaluated the effects of psychotherapeutic agents on skilled performance in the workplace. Previous research with chlordiazepoxide on patients in an industrial setting found no detriment to performance, but rather increased production correlated with the symptomatic improvement of anxiety.^{4,5} As a result of this research, an exploratory investigation of the effects of a wide range of commonly prescribed psychoactive and non-psychoactive drugs was undertaken, with special interest in the effects of diazepam. In addition to worker performance, absenteeism and accident rates were also recorded.

METHOD

Sample and Survey Instrument

Our survey covered 2,200 employees of three large manufacturing firms engaged in the production of fine wood furniture. A simple three-page questionnaire (Table I)

was developed, listing the 25 most commonly prescribed prescription medications including diuretics, antibacterials, sedatives, antihistamines, analgesics, antispasmodics, anti-inflammatory agents, estrogens, antidepressants, and minor tranquilizers (benzodiazepines).⁶ The most familiar product name was provided—whether brand or generic—to facilitate patient identification. Respondents were asked to check those medications “you are taking now or have taken in the past six months.” It was suggested that the name of the medication be confirmed with the pharmacists’ labels appearing on the containers. An additional space was provided for indicating if *no* medication had been taken over the past six months.

If respondents indicated medication had been utilized, they were instructed to “choose the two medications used most recently” and answer the six questions on the next two pages of the questionnaire—one page for each medication taken. The six questions included name of medication, why it was prescribed, date of starting medication, last time taken, dosage strength and dosage schedule (from label).

Procedure

Distribution of the questionnaire was preceded by a letter to all em-

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ployees from management explaining the company's participation in a health survey being conducted by Bowman Gray School of Medicine and soliciting cooperation. Ques-

tionnaires plus a cover letter were distributed shortly thereafter and response was requested within 48 hours. Questionnaires carried identification numbers which permitted

cross tabulation with employee records regarding health-related absenteeism, on-the-job accidents and supervisor's past rating of work performance. The latter ratings were measured on a numerical scale from 1 to 5 with the higher number indicating superior performance.

TABLE I

THIS QUESTIONNAIRE IS CONCERNED WITH THE USE OF A NUMBER OF DIFFERENT MEDICATIONS*

Before you begin answering questions about medications, please identify your sex by checking the appropriate box.

- ☐ 1. Male ☐ 2. Female

Listed below are several prescription medications commonly recommended by doctors. Each medication has a small box in front of it. Please CHECK THE BOX OF ANY MEDICATIONS YOU ARE TAKING NOW OR HAVE TAKEN IN THE PAST SIX MONTHS. You may want to look at the druggist's label on the container of the medication to make sure of some names.

- | | |
|--|--|
| <input type="checkbox"/> 01. None of the Following | <input type="checkbox"/> 14. Indocin® (indomethacin)* |
| <input type="checkbox"/> 02. Actifed®† | <input type="checkbox"/> 15. Keflex® (cephalexin)* |
| <input type="checkbox"/> 03. Ampicillin | <input type="checkbox"/> 16. Lanoxin® (digoxin)* |
| <input type="checkbox"/> 04. Benadril® (diphenhydramine)* | <input type="checkbox"/> 17. Lasix Oral® (furosemide)* |
| <input type="checkbox"/> 05. Dalmene® (flurazepam)* | <input type="checkbox"/> 18. Librium® (chlordiazepoxide)* |
| <input type="checkbox"/> 06. Darvocet-N®† | <input type="checkbox"/> 19. Lomotil®† |
| <input type="checkbox"/> 07. Donnatal®† | <input type="checkbox"/> 20. Motrin® (ibuprofen)* |
| <input type="checkbox"/> 08. Dyazide®† | <input type="checkbox"/> 21. Percodan®† |
| <input type="checkbox"/> 09. Elavil® (amitriptyline)* | <input type="checkbox"/> 22. Phenobarbital |
| <input type="checkbox"/> 10. Fiorinal®† | <input type="checkbox"/> 23. Premarin Oral® (conjugated estrogen)* |
| <input type="checkbox"/> 11. HydroDIURIL® (hydrochlorothiazide)* | <input type="checkbox"/> 24. Sumycin® (tetracycline)* |
| <input type="checkbox"/> 12. Ilosone® (erythromycin estolate)* | <input type="checkbox"/> 25. Valium® (diazepam)* |
| <input type="checkbox"/> 13. Inderal® (propranolol)* | <input type="checkbox"/> 26. V-Cillin-K® (penicillin V)* |

IF YOU CHECKED NONE, please RETURN THIS FORM in envelope provided.

IF YOU CHECKED ONE OR MORE BOXES, please read the following instructions and complete the following pages.

INSTRUCTIONS: The next two pages are divided into two sections. At the top of each section is a blank line labeled "NAME OF MEDICATION." From the list of medications you checked, CHOOSE THE TWO MEDICATIONS YOU HAVE USED MOST RECENTLY AND WRITE THEIR IDENTIFYING NAMES FROM THE LIST ABOVE ON THESE LINES (one medication for each line). If you only checked two boxes, use those two names. If you only checked one box, leave the second section blank.

After you have written the number of the medications on the lines, answer the questions in each section by checking the appropriate boxes. FOR EACH SECTION, PLEASE ANSWER THE QUESTIONS ABOUT THE MEDICATION NAME YOU WROTE ON THE LINE.

*Generic names are given in parentheses but were not indicated in the standard questionnaire.

†Constituents of compounds are given below but were not indicated in the standard questionnaire.

Actifed® — triprolidine hydrochloride 2.5 mg and pseudoephedrine hydrochloride 60 mg per tablet

Darvocet-N® 50-propoxyphene napsylate 50 mg and acetaminophen 325 mg; Darvocet-N® 100-propoxyphene napsylate 100 mg and acetaminophen 650 mg per tablet

Donnatal® — phenobarbital 16.2 mg, hyoscyamine 0.1037 mg, atropine sulfate 0.0194 mg, hyoscine hydrobromide 0.0065 mg per tablet, capsule or teaspoonful

Dyazide® — triamterene 50 mg and hydrochlorothiazide 25 mg per tablet

Fiorinal® — butalbital 50 mg, aspirin 200 mg, phenacetin 130 mg, caffeine 40 mg

Lomotil® — diphenoxylate hydrochloride 2.5 mg and atropine sulfate 0.025 mg per tablet or teaspoonful

Percodan® — oxycodone hydrochloride 4.50 mg, oxycodone terephthalate 0.38 mg, aspirin 224 mg, phenacetin 160 mg, caffeine 32 mg per tablet

SECTION I

Name of Medication

1. For what reason(s) did your doctor prescribe this medication?

2. When did you first start taking this medication?

- ☐ 1. More than one year ago
☐ 2. More than six months, but less than one year ago
☐ 3. Within the past six months

3. When was the last time you took this medication?

- ☐ 1. More than one year ago
☐ 2. Within the past month
☐ 3. Within the past six months

4. How often during the past six months did you take this medication every day?

- ☐ 1. Less than one month ☐ 3. Two to five months
☐ 2. About a month ☐ 4. All six months

5. What size are the pills? (You will find this information on the druggist's label)

- | | |
|--|--|
| <input type="checkbox"/> 01. 1 - 4 mg. | <input type="checkbox"/> 08. 60-99 mg. |
| <input type="checkbox"/> 02. 5 - 9 mg. | <input type="checkbox"/> 09. 100-149 mg. |
| <input type="checkbox"/> 03. 10-14 mg. | <input type="checkbox"/> 10. 150-249 mg. |
| <input type="checkbox"/> 04. 15-19 mg. | <input type="checkbox"/> 11. 250 + mg. |
| <input type="checkbox"/> 05. 20-29 mg. | <input type="checkbox"/> 12. Other |
| <input type="checkbox"/> 06. 30-39 mg. | <input type="checkbox"/> 13. Don't Know |
| <input type="checkbox"/> 07. 40-59 mg. | |

6. What dose is written on the druggist's label? (If no dose is written, how many pills did the doctor tell you to take?)

- ☐ 1. One or two a day ☐ 3. Five or more a day
☐ 2. Three or four a day ☐ 4. Don't know

RESULTS

Seven hundred and sixty-two questionnaires were completed and returned, representing an anticipated response of about one-third (34.6%) of the subject population.

Performance for the subjects in this investigation had been measured by their immediate foremen and supervisors and had been recorded in personnel department reports. Absenteeism and accidents were also available through the personnel department.

To facilitate comparison, respondents were divided into several groups based on type of medication being taken, i.e., any, none, non-psychoactive, psychoactive and/or diazepam (Table II). Data for days absent, number of reported accidents and supervisor's rating of performance were tabulated and the means determined for each group (Table III). As would be expected, respondents taking no medication and, therefore, presumably well (N-581) scored better in all areas than those who had received some type of prescription medication within the past six-month period (N-181). The difference was most evident in absenteeism with the medicated group averaging three more days lost from the job.

Those taking medicine were then categorized according to the effects of psychoactive or non-psychoactive medication on occupational indices. Subjects receiving common non-psychoactive medicines (N-114) lost less time from work (approximately two days), had fewer accidents and had slightly better performance ratings than patients on any type of psychoactive drug (N-67). These 67 patients were then divided into two additional groups, those receiving psychoactive medication such as amitriptyline, propoxyphene and phenobarbital (N-28), and those taking diazepam

(N=39). Although differences in time out from work were minimal, a difference in accident rate and performance was noted between the two groups. Since the number of subjects taking psychoactive drugs was quite small and the standard deviations very large, statistically significant differences were not to be expected.

DISCUSSION

Although the limitations of these preliminary data are recognized, the available figures clearly suggest that (1) taking any medication is associated with greater absenteeism which would be expected since the sick are more likely to receive medication as well as to be absent from work, and, (2) use of diazepam is not associated with any major difference in performance or in accident or absentee rate above that observed in patients taking any other type of medication. Therefore, results from this survey show no increased negative effects in the workplace associated with diazepam use. These results should be viewed, however, as only preliminary. Additional studies involving larger groups of subjects working in other industries and in other geographic regions are needed before making a blanket statement as to the effect of these drugs on worker performance, absenteeism and accident rates.

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TABLE I
SECTION II

Name of Medication _____

1. For what reason(s) did your doctor prescribe this medication? _____
2. When did you *first start taking* this medication?
 - ☐ 1. More than one year ago
 - ☐ 2. More than six months, but less than one year ago
 - ☐ 3. Within the past six months
3. When was the *last time* you took this medication?
 - ☐ 1. More than one year ago
 - ☐ 2. Within the past month
 - ☐ 3. Within the past six months
4. How long during the past six months did you take this medication every day?
 - ☐ 1. Less than one month
 - ☐ 2. About a month
 - ☐ 3. Two to five months
 - ☐ 4. All six months
5. What size are the pills? (You will find this information on the druggist's label)
 - ☐ 01. 1 - 4 mg.
 - ☐ 02. 5 - 9 mg.
 - ☐ 03. 10-14 mg.
 - ☐ 04. 15-19 mg.
 - ☐ 05. 20-29 mg.
 - ☐ 06. 30-30 mg.
 - ☐ 07. 40-59 mg.
 - ☐ 08. 60-99 mg.
 - ☐ 09. 100-149 mg.
 - ☐ 10. 150-249 mg.
 - ☐ 11. 250 + mg.
 - ☐ 12. Other
 - ☐ 13. Don't Know
6. What dose is written on the druggist's label? (If no dose is written, how many pills did the doctor tell you to take?)
 - ☐ 1. One or two a day
 - ☐ 2. Three or four a day
 - ☐ 3. Five or more a day
 - ☐ 4. Don't know

TABLE II—CATEGORIZATION OF RESPONDENTS

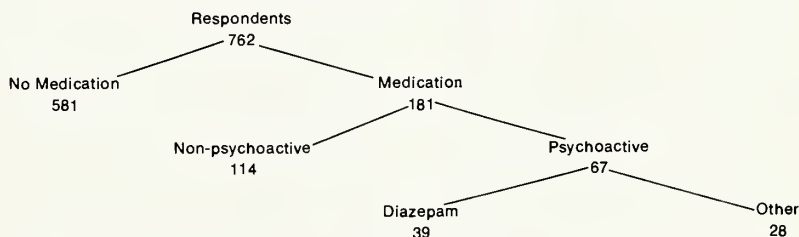


TABLE III
Comparison of Workplace Incidents by Type of Medication for Six Months
N=762

| Respondent Group | N | Days Absent | | Accidents | | Performance Rating | |
|-------------------------|-----|-------------|-------|-----------|-----|--------------------|-----|
| | | Mean | SD | Mean | SD | Mean* | SD |
| No Medication | 581 | 5.60 | 6.09 | 0.11 | .34 | 3.45 | .83 |
| Any Medication | 181 | 8.96 | 9.99 | 0.12 | .35 | 3.36 | .76 |
| Non-Psychoactive | 114 | 8.24 | 8.53 | 0.10 | .30 | 3.36 | .74 |
| Medication | | | | | | | |
| Psychoactive Medication | 67 | 10.17 | 12.06 | 0.16 | .41 | 3.35 | .81 |
| Diazepam | 39 | 9.87 | 12.97 | 0.12 | .40 | 3.51 | .79 |
| All Other | | | | | | | |
| Psychoactives | 28 | 10.60 | 10.89 | 0.21 | .41 | 3.14 | .80 |

*Higher score indicates superior performance

Illness Onset and Levels of Health Care Provided: A Study of 213 Families

Robert B. Taylor, M.D., Robert L. Michielutte, Ph.D., and
Anne Herndon, Ph.D.

ABSTRACT The occurrence of new illness in families and the levels of health care provided, as reported by family members at the Bowman Gray School of Medicine Family Practice Center, has been determined. In a survey of 738 persons in 213 families, 580 illnesses were reported during a six-month period; 434 persons (59%) contacted a physician. A physician other than the primary physician was contacted 152 times (21%) and 55 hospitalizations were reported. Comparison of data with earlier studies revealed that our sample population had a relatively high rate of consultative/referral care and hospitalization.

THIS paper describes a study of new illness occurring in family members and the levels of health care provided to these individuals in a family practice center located in a tertiary care facility. White et al¹ have pointed out that in the study of illness behavior the patient may be a more relevant unit of observation than the disease, the visit, or the hospital admission. Efforts to construct a model classification of reasons for contact with primary health care services have prompted renewed interest in the ecology of

health care. A 1979 preliminary report cites the "acute need to define better the complicated relationship between health care needs and demands."² The levels at which health care is provided for illness become important in cost containment and it is generally agreed that increased availability and utilization of primary health care services reduce the need for and use of more expensive and specialized and, often, hospital-based health care.²

Primary care has been defined as that furnished by "a physician of first contact, who provides continuing comprehensive care, employing referrals to other physicians when appropriate, and who orchestrates the health care team and often acts as the patient's personal advisor."³ Secondary and tertiary care are less well defined. It has been stated that secondary care is that offered by consultants in or out of a hospital and that tertiary care is usually provided by the major teaching medical centers.⁴ However, distinctions between these three levels of health care become clouded in many areas, notably so in the outpatient areas of teaching hospitals where Fletcher et al⁵ have suggested that secondary rather than primary care is most often rendered. Thus, the patient treated in a family practice center located in a tertiary care facility may encounter a pattern of care that differs from that in the community at large.

Our study addressed the following questions: In the sample population of persons receiving primary care at a teaching hospital, how many new illnesses occurred and how often was the primary care physician consulted? How often was secondary or tertiary care required and how often was hospitalization necessary? How do the answers to these questions compare to data regarding health care outside the teaching hospital? What are the reasons for any differences?

METHOD

The population consisted of families registered at the Family Practice Center of the Bowman Gray School of Medicine, Winston-Salem, North Carolina, which serves 4,500 pre-registered families who are representative of the community. The Family Center is attached to the teaching hospital and medical school.

A representative sample of 241 persons was asked to complete a questionnaire that elicited the following data:

1. Number of family members
2. Number of new illnesses (the beginning of any sickness, injury or disability in the family members during the previous six months)⁶
3. Number of times the family physician was consulted
4. Number of times a physician

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Reprint requests to Dr. Taylor

other than the family physician was consulted

5. Number of times hospitalization was required

A research assistant presented the questionnaire to consecutive patients at one of three modules in the Family Practice Center, with patients in all three modules surveyed in rotation. Following brief examination of the questionnaire, 20 patients declined to participate.

Completed forms were obtained from 221 respondents, either a patient or a family member accompanying the patient; eight were invalidated as unusable. Some sample bias was introduced by the tendency of non-respondents and respondents returning unusable questionnaires to be black or less well educated. However, since the overall response rate was 88.4%, the loss of these individuals from the sample should have little effect on the results.

RESULTS

The 213 respondents ranged in age from 18 to 83 (mean 38) years. Questionnaires received from these individuals reported illness onset and health care levels provided for 738 family members. The respondents were 92% white/Caucasian, 7% black/Afro-American and 0.5% other races. Their education ranged from fewer than nine years of school (5.6%) to professional degree (9.4%).

Figure 1 presents the number and percentages of new illnesses, consultations with a family physician, consultations with another physician, and hospitalizations during the six-month period. Table I compares these data with the National Health Survey data obtained from supplemental forms on acute conditions added to the Health Interview Survey conducted by the U.S. Department of Health, Education and Welfare during calendar years 1973 and 1974. Over this two-year period the total Health Interview Survey annual sample of approximately 12,000 segments yielded a probability sample of about 237,000 persons in 81,000 interviewed households.⁷ Data from the two studies were

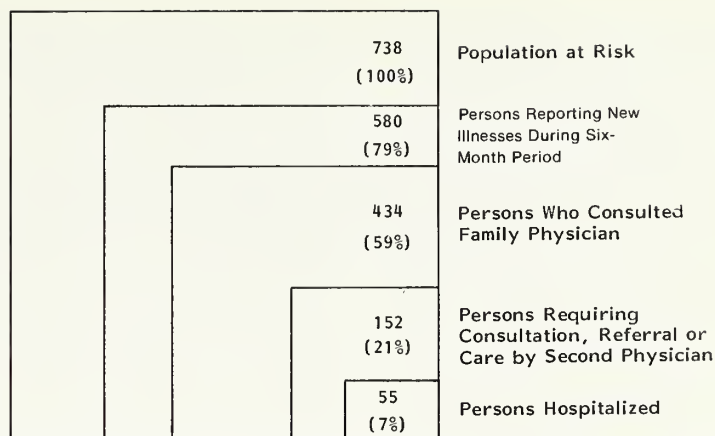


Fig. 1: Illness Onset and Levels of Health Care Provided During Six-Month Period.

converted to annual rates to allow comparison.

The incidence of new illness in the Bowman Gray sample and National Health Survey is similar, as is the frequency with which primary care physicians were consulted. However, in comparison with the National Health Survey data, there is a greater rate of consultation/referral and hospitalization in our population.

DISCUSSION

All comparisons of data from our study with those of others must be done with caution. The data for our study were derived from respondents attending a university-based family practice center. There is a likelihood of some bias based upon the respondents being patients or family members of patients already receiving health care, and the location of the family practice center in a tertiary care institution setting. The National Health Survey interviewed individuals in a non-medical setting.

The Bowman Gray data was obtained by asking patients to describe new illness and health care during the previous six months. The National Health Survey data recorded acute conditions "first noticed in the three-month period preceding the interview week that caused restricted activity, received medical attention, or both. The annual incidence of acute conditions (was) calculated on the basis of only those conditions whose onset occurred in the two weeks preceding the week of interview."⁷ Both studies in-

volve data obtained by recall, rather than by chart review or prospective recording.

The number of new illnesses reported by Bowman Gray Family Practice Center patient families, converted to yearly incidence, is slightly less than that reported in the National Health Survey, which reported acute illness during the two weeks before interview as opposed to a six-month recall period for the Bowman Gray study; differing times represent possible source of bias, with more accurate recall anticipated for the shorter interval.

The rate of consultation involving practitioners other than the primary physician was much higher in this study than in the National Health Survey. Although respondents in our survey were patients or family members of patients in the Family Practice Center, consultation reported for various family members might have occurred anywhere in the medical center or local community as well as in the Family Practice Center. The apparent high rate of

Table I
Incidence of New Illness and Levels of Health Care Provided

| | Bowman Gray Study | National Health Survey |
|---|-------------------|------------------------|
| Persons at Risk | 1,000 | 1,000 |
| New Illnesses Reported, Annualized | 1,572 | 1,750 |
| Family/Primary Physician Consulted | 1,176 | 920 |
| Consultation, Referral or Other Physician Contacted | 412 | 138 |
| Hospitalization Required | 149 | 21 |

secondary/tertiary care may represent teaching encounters involving various faculty members in family medicine as well as other specialties. The data reported appear to support Fletcher's thesis regarding out-patient care in teaching hospitals.⁵

The high rate of hospitalization in our population is further evidence that persons being treated at a teaching center are likely to receive secondary and tertiary care — including hospital care — rather than primary care. The hospital admission rate of family members in the study sample was seven times that reported in the National Health Survey. The difference is certainly to be spuriously increased by reporting differences. The hospitali-

zation rate for the National Health Survey represents a minimum figure, persons who entered the hospital immediately upon onset of the illness; others may have required hospitalization later, but no data are provided. Nevertheless, the striking difference between the two groups is unlikely to be on the basis of minor differences in reporting.

Our results when compared with previous studies reflect varying concepts of illness recorded over different time periods in different settings. Comparison of the figures reveal two noteworthy tendencies: the involvement of more than one physician and a relatively high hospitalization rate for families receiving primary care in a teaching center.

Acknowledgments

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Figure 1 was prepared by the Department of Audio-Visual Resources, The Bowman Gray School of Medicine.

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If a bone be displaced at the joint, the natural and relative situation of the parts, of the muscles, the tendons, and the blood-vessels, are deranged, and the limb becomes useless. To understand exactly the state of the parts in these diseases, it was necessary, originally, in the first case to analyze the bones, to know that a certain substance, the phosphate of lime, was wanting, and to communicate this earth in greater quantities to the system, and by a proper mode of cure to fix it in that structure in which it is deficient: in the second case, to apply an apparatus, which may bring into play the power of the muscles, which favour the reduction, and throw out of operation those which oppose it, and thus restore the bone into its place: thus by a particular motion, the luxation of the thigh, at the hip, has been reduced in a moment, when without this happy effort of skill, it would have required immense power applied to the limb, with great suffering to the patient. Pathology and chemistry then separating the groups of facts thrown together by nature, before the mind in the one case, and anatomy in the other, furnishes the knowledge necessary for the cure. This system of analysis, which looks with an eye of scrutiny into the various masses and groups of natural phenomena presented in the human system, separating those which are united in the exact relation of cause and effect, and which the mind is so prone to view combined with others, in a confused and jumbled aggregate, is of the greatest importance, and it is by this process of separation, that science operates in conferring its benefits upon mankind. — *Elements of the Theory and Practice of Physic*, by George Gregory, M.D., with notes and additions, adapted to the Practice of the United States, by Nathaniel Potter, M.D., and S. Colhoun, M.D. Vol. I, Philadelphia, Towar & Hogan, 1829.

Acute Beryllium Lung Disease

William F. Hooper, M.D., F.A.C.P.

ABSTRACT An 18-year-old male machinist developed acute respiratory insufficiency; interstitial pneumonitis was found on open lung biopsy. Quantitative analysis on the lung tissue by the Beryllium Case Registry indicated acute beryllium lung disease. Clinical and radiographic resolution occurred with steroid administration and removal from the work environment. Acute beryllium disease developed in the patient despite plant compliance with all governmental safety standards, suggesting that hypersensitivity played a role in the development of his disease.

INTRODUCTION

ACUTE beryllium lung disease, first described in the 1930s,¹ is usually an occupationally related tracheobronchitis or interstitial pneumonitis. The pathophysiology is poorly understood but hypersensitivity is suggested by immunologic studies.² The clinical picture is non-specific and diagnosis requires a history of beryllium exposure, compatible histologic findings and quantitative tissue analysis. This case is presented because of its rarity in the non-industrial South, and because of its occurrence despite full compliance with existing safety standards, re-emphasizing the role of individual hypersensitivity.

CASE REPORT

An 18-year-old caucasian male machinist was hospitalized because of intermittent sputum production, rhinitis and dyspnea with minimal exertion for six weeks. Two weeks before entry he began to have nosebleed, substernal pain on inspiration and diffuse abdominal pain with four or more diarrheal stools daily. As a child he had extrinsic asthma, which had resolved spontaneously. He was involved in sandblasting and grinding dyes composed of a beryllium (2%)-copper (98%) alloy. The plant was inspected regularly by the North Carolina Occupational Safety and Health Administration and met or exceeded all existing standards.

At admission he was in respiratory distress with a respiratory rate of 35 to 45 per minute. Arterial blood gas measurement showed a partial pressure of oxygen (pO_2) 41 mm Hg; the pH 7.46; and partial pressure of carbon dioxide 32 mm Hg. With nasal oxygen at 3 liters per minute the pO_2 was 75 mm Hg. A diffuse infiltrate with finely nodular pattern throughout the lower lung zones was seen on chest roentgenograph (Fig. 1). Lactic dehydrogenase (LDH) elevations varied between 290 and 480 IU per liter. White blood count was 14,700 with 65 polys, 13 stabs, 17 lymphs, and 5 monos. Sputum gram stain and culture revealed only normal flora. Bronchoscopic washings for acid fast organisms, fungal culture and cytology were negative. Antinuclear antibody and monospot

tests were negative; Westergren sedimentation rate was 20 mm per hour.

Topical bronchodilators were administered via intermittent positive pressure and aminophylline intravenously. On the sixth hospital day thoracotomy and wedge resection were performed; light microscopy revealed usual interstitial pneumonitis (Fig. 2) and no significant birefringence was noted. Post-operatively cough was productive of purulent sputum and fever of 104° was observed. The administration of cephalothin and gentamicin and of methylprednisolone intravenously resulted in dramatic improvement within 48 hours. Steroid dose was gradually decreased so that he was discharged on the 19th day taking prednisone 40 mg daily. While breathing room air pO_2 was then 69.2 mm Hg. Spirometry was compatible with a classic restrictive pattern, forced vital capacity was 1.94 liters (44% of predicted); forced expiratory volume in one second (FEV₁) 1.76 liters; and FEV₁ to FVC 90%.

All respiratory symptoms gradually cleared as steroids were tapered over several months. Five months after discharge spirometry and arterial gases were satisfactory, forced vital capacity was 3.90 liters (90% of predicted), FEV₁ 3.24 liters (83%), and pO_2 was 89.4 mm Hg on room air.

The Armed Forces Institute of Pathology concurred with a diagnosis of usual interstitial pneumonitis but recommended review of

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Fig. 1: Admission chest x-ray demonstrating diffuse reticulonodular infiltrates.

materials by the Beryllium Registry. Quantitative analysis showed 0.028 mcg of beryllium per gram of dried tissue, a slightly elevated level.* A diagnosis of acute beryllium disease was based on the triad: history of occupational exposure; compatible histologic findings; and increased beryllium content in the lung.

DISCUSSION

Beryllium is a metal used in making components for the communications, nuclear power and aviation industries, such as x-ray tube "windows," fission reactor

impeders, and re-entry cones of rockets. Desirable characteristics include light weight, increased tensile strength, x-ray transmission and lack of magnetic properties.³⁻⁵

"Berylliosis," an occupational disease initially recognized in 1933,¹ was not established as a compensable impairment until the 1950s.⁴ Mass exposure occurred in the 1940s with military demand for radiotubes and vacuum electrodes, and later in the fluorescent lamp industry.⁴ All fluorescent lamp industry workers who developed "berylliosis" had been employed before 1949 when beryllium use in these lamps was discontinued.⁵ Today the process is most often encountered in plants engaged in

fluoride and sulfate extraction of beryllium.^{3,4}

The United States Beryllium Case Registry was founded in 1952 at the Massachusetts General Hospital to serve as a clearinghouse for information on beryllium associated disease. By 1979 fewer than 900 cases of beryllium disease had been reported with fewer than 250 acute cases.*³ (Inclusion in the registry requires pathologic evidence of lung deposition, not simply proven exposure to beryllium.)

Beryllium can be absorbed through the lung and deposited in the lymphatic system and bone marrow. Pulmonary disease is the dominant clinical picture but ophthalmologic and dermatologic manifestations are not rare.³ Because multisystem involvement can occur with or without pulmonary manifestations, "beryllium disease" is preferred to "berylliosis" which implies only a pneumoconiotic process.⁵

The United States Atomic Energy Commission⁶ established safe levels of beryllium permitted in industry:

- Eight-hour plant average concentration . . .
2.0 mcg per cubic meter
- Single acute instantaneous exposure . . .
25 mcg per cubic meter
- Average monthly neighborhood concentration . . .
0.01 mcg per cubic meter

Intensity and duration of exposure appear more important than the specific active beryllium compounds encountered.⁵ Exposure may be tangential or remote as in cases of people living near a beryllium plant or among wives handling the uniforms of workers.⁸ Only a small percentage of the population at risk develops clinical disease and host reactivity appears to play a significant role.^{3,5} The pathophysiology is poorly understood but immune studies involving macrophage inhibiting factor and blast transformation and response to steroids suggest hypersensitivity phenomena.³

*Sprince NL (Beryllium Case Registry) personal communication

*Sprince NL (Beryllium Case Registry) personal communication

Acute beryllium disease usually presents as a chemical pneumonitis or tracheobronchitis. Upper airway inflammation can result in substernal pain, epistaxis, ulceration and even septal perforation. Cough is typically nonproductive; sputum production and elevated temperature suggest superimposed infection. Physical findings are usually limited to tachycardia, rales, and tachypnea although cyanosis can occur.^{3,4} Radiographically any pattern can be encountered, from mildly accentuated reticular markings to frank pulmonary edema. Laboratory studies are non-diagnostic; leukocytosis suggests superimposed infections. Beryllium is found in urine of most patients with acute beryllium disease but in no greater amounts than in urine of healthy individuals exposed. The concentration will vary daily and often may approach zero. Urinary quantitation, however, may be of great value in demonstrating exposure to beryllium.⁷ Histologically the pulmonary interstitium is infiltrated by lymphocytes and plasma cells in moderate numbers. Cells lining the alveoli may be multinucleated and a desquamation can be seen with small quantities of protein deposited intraalveolarly as hyaline membranes. Granulomas and inclusions are not seen, in contrast to chronic beryllium disease.⁵

Chemical extraction permits detection of as little as 0.002 micra of beryllium per gram of dried tissue but does not distinguish between inert beryllium silicate and active compounds.⁵ Less than 0.020 mcg per gram dried tissue is considered normal; levels of 0.028 (this patient) and 0.033 are "slightly" and "moderately" elevated.⁸ In one series of six fatal cases of acute beryllium disease, lung concentrations varied from 0.004 mcg to 1.8 mcg per gram.⁵ The concentration of beryllium found in lung tissue does not correlate with length of occupational exposure or duration of illness.⁷

Beryllium lung disease does not usually demonstrate an orderly progression from acute to chronic disease, previous acute attacks having

been reported in less than 10% of cases of chronic beryllium lung disease.⁵ Fewer than a dozen cases of fatal acute beryllium disease are included in the Registry, and most individuals with acute disease recover without sequelae. In fatal cases the disease ran its course in two to 10 weeks, averaging one month.⁵ The interval between acute attacks and histologic findings of chronic disease has varied from 13 months to 17 years and the transition is subtle.⁵

Diagnosis of acute beryllium disease while symptoms are mild and reversible is difficult because it mimics nonspecific pneumonitis. Most workers will not get into difficulty if the concentration of beryllium in the atmosphere does not exceed 25 mcg per cubic millimeter. Respirators are not usually necessary if the environmental concentrations of beryllium are regularly determined and found to be within acceptable range.⁹ At present it is

not possible to identify hypersensitive individuals readily and continued surveillance is necessary despite compliance with OSHA standards.

Patients with acute beryllium disease have been given adrenal steroids but their efficacy is unproven. Isolated instances of spontaneous remission have been reported.⁵

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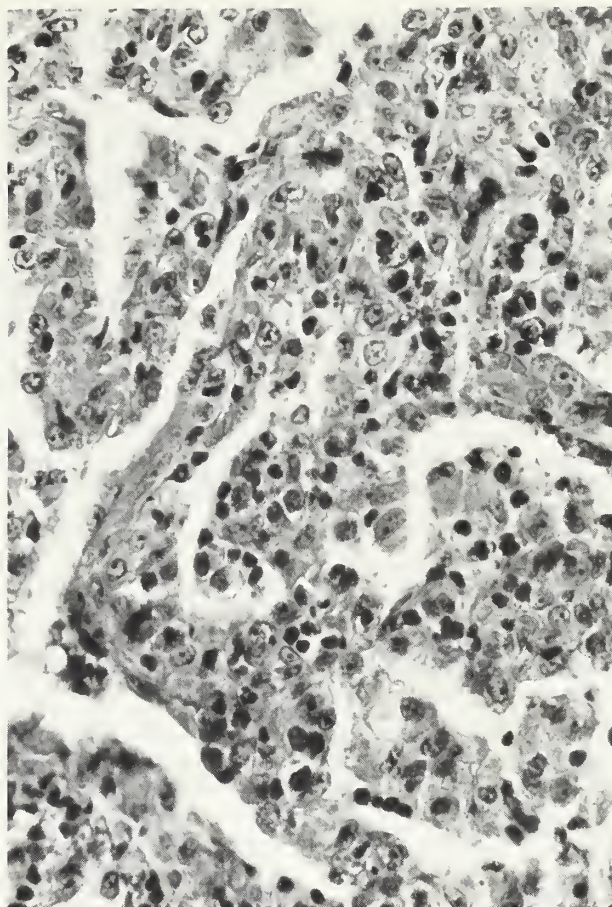


Fig. 2: Open lung biopsy demonstrating usual interstitial pneumonitis.

Special Article

Medical Care in North Carolina Jails

Nancy Taylor, R.N.*, and Carleen Massey, R.N.**

NORTH Carolina law makes sheriffs and jailers responsible for seeing that each prisoner receives adequate medical care. The statutes require each county that operates a jail to pay for "emergency medical services" and to develop a "plan" for medical care to "protect the health and welfare" of prisoners, to avoid the spread of contagious diseases, and to provide for detecting, examining and treating prisoners who are infected with tuberculosis or venereal disease.[†] This plan must be developed in consultation with the sheriff, the county physician, the district health director, and the local medical society and must finally be approved by the local health director.

Although North Carolina law emphasizes emergency medical care, the jailer, the sheriff and the county will be better protected by also providing regular (non-emergency) care. This approach may actually reduce total medical care cost and will not usually increase it.

In 1975 the American Medical Association (AMA) received a grant from the federal Law Enforcement Assistance Administration (LEAA)

to initiate a program for improving health care services in jails. The major accomplishments of the program include: developing alternate approaches to jail health services ("model systems" such as contract physician/staff nurse or county health physician/county health nurse), establishing a clearinghouse to gather and dispense information about jail health care (18 AMA publications have been sent to North Carolina's project jails), developing and implementing the AMA Standards for Health Services in Jails, and establishing an accreditation program for medical services in jails.

IMPROVING HEALTH CARE STANDARDS

In 1972 the AMA conducted a national survey to evaluate medical care in jails. The 1,159 questionnaires that were returned revealed a gross inadequacy of health and medical services throughout the country. In addition, some successful lawsuits in behalf of prisoners focused national attention on the deplorable conditions in jails: (1) the only medical services in 66% of the jails were first-aid facilities, (2) physicians were available on a regularly scheduled basis in only 38% of the jails, (3) no specific physician was designated "on call" to provide medical care in 32% of the jails, and (4) health care delivery in jails consisted mainly of treatment in emer-

gency rooms and physicians' offices for acute and emergency cases.

AMA Standards. Federal courts have held that adequate medical care in jails is required by the Eighth and Fourteenth amendments to the United States Constitution. Therefore medical care must be considered an integral part of total jail administration. An organized, efficient medical care system in jails is possible through close cooperation among the medical staff, jail personnel, and county administration. The most effective means for implementing a good system is to adapt the AMA health care standards, which are acknowledged criteria for measuring the quality and quantity of health care delivery systems. The AMA Standards were developed by task forces that were approved by the AMA Board of Trustees and worked out under the supervision of the AMA Advisory Committee to improve medical care and health services in correctional institutions. Several hundred sheriffs, jail administrators, and health care providers made substantial contributions to the standards, which were subjected later to testing by pilot-project jails and found to be realistic and achievable. They define "adequate medical care" as required by federal and state courts.

The first edition of the AMA Standards addressed 42 issues and was approved by the National Sheriffs' Association, the American

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†N.C. Gen. Stat. §§ 153A-224(b), -225.

Correctional Association, the Commission on Accreditation for Corrections, and the AMA House of Delegates. The most recent edition (69 standards) includes detailed criteria for care of chemical dependency and psychiatric problems. Chemical dependency refers to the condition of individuals who are physiologically and/or psychologically dependent on alcohol, opium derivatives and synthetic drugs with morphine-like properties (opioids), stimulants and depressants. These additional standards are extremely important, since national criminal justice service agencies report that one of their major problems is how to deal with mentally ill and chemically dependent people who are detained in jail.

These AMA Standards emphasize bringing medical resources into the jail for routine care and transferring inmates with extraordinary needs. They address the following aspects of medical, psychiatric, dental care and health services:

1. Administrative — designating a health authority to oversee medical care services.
2. Personnel — providing an adequate number of health-trained correctional officers.
3. Care and treatment — providing regularly scheduled sick call and health appraisals on all inmates.
4. Pharmaceuticals — adhering to state and federal laws and the regulations and requirements for controlling medication; providing procedures for dispensing, administering and distributing medication.
5. Health records — assuring that appropriate form, format, storage, transfer and confidentiality of health records is maintained.
6. Medical legal issues — assuring that an inmate's legal right to informed consent and right to refuse treatment is honored.

Ninety jails, ranging in size from small to large, have been accredited under the AMA Standards. The majority are small and medium sized, with average daily populations ranging from 15 to 1,300 inmates. To achieve two-year AMA

accreditation, jails must comply with 23 "essential" standards and 85% of the remaining applicable standards. One-year accreditation requires that jails comply with 23 "essential" standards and 70% of the remaining applicable standards. The accreditation is carried out by a trained survey team composed of the state project coordinator, a physician and AMA representatives. The team makes an on-site visit and conducts a comprehensive survey to measure compliance with each standard; it also interviews inmates, the "responsible" physician, the jail nurse, the dietitian and others. This survey is returned to the AMA for staff review and analysis; an accreditation advisory group then conducts its review and gives a final recommendation. The AMA sends the jail a statement of the results. Once accredited, the jail must continue to comply with the standards to maintain that accreditation. The primary benefit of accreditation to a jail is the professional and public recognition of good performance — i.e., the jail's health care delivery system is found by organized medicine to be "adequate" in terms of the medical care and health services it offers.

Results of implementing AMA Standards. Implementing the AMA Standards can reduce ultimate health care costs. A sample study of ten jails in a northeastern state, a mid-Atlantic state, and two mid-western states reveals that one-third were spending less money overall by meeting the standards than before the implementation, one-third were spending more, and one-third were spending the same amount for health care.

Providing regular "sick call" is often no more expensive than the cost of an emergency room or physician's office visit. Sick call decreases the manpower hours for transportation and treatment; it also decreases the risk of escape by the inmate. Costs also have been controlled by using existing resources — such as county health departments — to provide nursing services, which are under the supervision of a physician, for the majority of sick-call complaints. Early iden-

tification and treatment of health problems (through "receiving screening" and "health appraisals") also helps avoid extraordinary expenditures.

Compliance with the standards may imply additional health care costs, but not all standards require dollar outlays to assure conformity. Whether implementing the AMA Standards will result in additional costs can be determined only on a jail-by-jail basis when all aspects of health care costs, direct and indirect, have been taken into account. While the LEAA provides funding for the AMA and state medical society to administer the program, the jails must absorb any costs for whatever changes they make in their health care delivery system.

NORTH CAROLINA'S PARTICIPATION

The North Carolina Medical Society has participated in the Jail Health Project since 1978. Twenty-two other state medical societies also participate in the program. The fact that North Carolina was selected is not a reflection on the quality of jail health care in this state but rather reflects the state medical society's *interest* in this matter. The society has one fulltime staff member, the state project coordinator, whose responsibilities include providing technical assistance for implementing AMA Standards to the jails that are included in this project. This staff member is in close touch with the AMA, makes periodic reports of progress, and receives AMA technical expertise. The state medical society has a Jail Project Advisory Committee composed of physicians and consultants who have a special interest in jail health care. This committee serves in an advisory capacity to the state project coordinator and oversees the project in North Carolina. The ten participating jails are in Buncombe, Cabarrus, Cumberland, Edgecombe, Harnett, New Hanover, Orange, Pitt, Sampson and Wake Counties. They were selected on the basis of their size and geographic location, the status of their health care delivery, and their interest in the project. The jails receive

technical help in establishing a systematic, efficient system for adequate medical care delivery.

When a jail begins participating in the project, the sheriff signs a written agreement with a health authority that will be responsible for health care services within the jail. In most cases the health authority is a physician; if the position is filled by someone other than a physician the AMA Standards specify that a physician must be on call who will be responsible for making final judgments about diagnoses and treatment. The State Medical Society through the county medical societies has helped to find such a physician for those jails that have had difficulty in finding one. (It should be noted that having an available physician does not insulate the jail staff and the sheriff from inclusion in a health-related lawsuit.)

Many jails in North Carolina do not have written rules of procedure nor maintain adequate health records. Even though jails may have established procedures, the absence of formal rules causes lack of continuity in carrying out policies and procedures. One of the AMA "essential" standards requires a manual of written policies and defined procedures. The project jails are in the process of adopting a medical policy and procedure manual developed by the Georgia Medical Society to meet their own needs. Using AMA sample forms, these jails are developing a uniform system of health recordation, which must be accurate and confidential. Basic information in these records includes: the completed receiving screening form (Fig. 1); health appraisal data forms; all findings, diagnoses, treatments, dispositions; prescribed medications and their administration; laboratory, x-ray, and diagnostic studies; signature and title of documentor; consent and refusal forms; release-of-information forms; place, date and time of health encounters; discharge summary of hospitalizations; and reports on dental, psychiatric and other treatment.

Additional medical education for jailers is another significant need.

The AMA Standards require that at a minimum inmates always be within sight or sound of at least one health-trained correctional officer who has training at least equivalent to a basic first-aid course. At least one officer per shift should be trained in basic cardiopulmonary resuscitation (CPR) and in recognizing common illnesses of inmates. The AMA Standards also require that appropriate jail personnel receive training in administering medications, in recognizing mental deficiency and chemical dependency, and in dealing with health emergencies. Jailers can receive first-aid and CPR training locally through the American Red Cross, community colleges, medical schools and the American Heart Association.

To help train jailers in health care, the North Carolina Medical Society sponsored a two-day LEAA-funded training session in Raleigh on April 8-9, 1980. Individual sessions focused on receiving screening; recognizing signs of ill health and emergencies; administering medications; following medical orders; dealing with mental illness and deficiency, alcoholism and drug abuse; and legal aspects of medical care in jails. Each of the 40 jailers who attended the training session received a manual on these subjects and also a certificate of achievement.

Historically jails have been a neglected part of the criminal justice system. Over 200,000 people are in jails in this country. The way these inmates are treated in jail may affect their attitudes and perceptions of society when they are released. One simple procedure that may have a positive effect on both inmates and jail personnel is "receiving screening." Receiving screening is an organized way to observe and interview each new inmate when he or she is booked. The booking officer completes the screening form by observing the inmate and asking him questions about his health. The following are some of the possible benefits of receiving screening:

1. Identifying an inmate's need for immediate medical attention—e.g., head injury, chest

pain that might indicate a cardiac condition, etc.

2. Identifying a chronic disease that requires ongoing treatment — e.g., diabetes mellitus, epilepsy, etc.
3. Providing an opportunity to observe signs and symptoms of alcohol or drug abuse, overdose, or withdrawal.
4. Protecting against legal liability (may identify an injury that an inmate received before he was confined to jail that he might later claim he received in the jail).
5. Identifying a communicable disease, such as tuberculosis, and taking measures to prevent the disease from spreading to staff and other inmates.
6. Providing an opportunity to observe a mental or emotional condition, such as suicidal tendency.
7. Showing the jail's interest in assuring inmates' well-being.
8. Indicating to the inmate that someone cares about him and thus creating a more positive jail atmosphere.

If an abnormality is detected during the receiving screening process, the jail staff should refer the inmate to the appropriate health care personnel for follow-up.

The North Carolina Medical Society provides technical help to the jails that are participating in the jail health project in obtaining appropriate health care personnel to conduct health appraisals and sick call in the jail. The AMA Standards require that an appraisal be performed on each inmate before the fourteenth day of his confinement. Health appraisal data include health history, physical examination and screening for communicable disease. For those inmates who have received a health appraisal within 90 days, a new appraisal is required only if the physician or his designate feels it is necessary.

The state society has enlisted the assistance of local medical societies, health departments and various community and statewide agencies to help the jails upgrade their medical care delivery systems. Some positive effects from this pro-

Receiving Screening Form

DATE _____

NAME _____ SEX _____ D.O.B. _____ TIME _____

INMATE NO. _____ OFFICER OR PHYSICIAN _____

Booking Officer's Visual Opinion

- | | | |
|---|-----|----|
| 1. Is the inmate conscious? | YES | NO |
| 2. Does the new inmate have obvious pain or bleeding or other symptoms suggesting need for emergency service? | YES | NO |
| 3. Are there visible signs of trauma or illness requiring immediate emergency or doctor's care? | YES | NO |
| 4. Is there obvious fever, swollen lymph nodes, jaundice or other evidence of infection which might spread through the jail? | YES | NO |
| 5. Is the skin in good condition and free of vermin? | YES | NO |
| 6. Does the inmate appear to be under the influence of alcohol? | YES | NO |
| 7. Does the inmate appear to be under the influence of barbiturates, heroin or any other drugs? | YES | NO |
| 8. Are there any visible signs of alcohol/drug withdrawal symptoms? | YES | NO |
| 9. Does the inmate's behavior suggest the risk of suicide? | YES | NO |
| 10. Does the inmate's behavior suggest the risk of assault to staff or other inmates? | YES | NO |
| 11. Is the inmate carrying medication or does the inmate report being on medication which should be continuously administered or available? | YES | NO |

Officer-Inmate Questionnaire

- | | | |
|---|-----|----|
| 12. Are you presently taking medication for diabetes, heart disease, seizures, arthritis, asthma, ulcers, high blood pressure, or psychiatric disorder? Circle condition. | YES | NO |
| 13. Do you have a special diet prescribed by a physician? Type _____ | YES | NO |
| 14. Do you have history of venereal disease or abnormal discharge? | YES | NO |
| 15. Have you <i>recently</i> been hospitalized or recently seen a medical or psychiatric doctor for any illness? | YES | NO |
| 16. Are you allergic to any medication? | YES | NO |
| 17. Have you fainted recently or had a recent head injury? | YES | NO |
| 18. Do you have epilepsy? | YES | NO |
| 19. Do you have a history of tuberculosis? | YES | NO |
| 20. Do you have diabetes? | YES | NO |
| 21. Do you have hepatitis? | YES | NO |
| 22. If female, are you pregnant? | YES | NO |
| 23. Are you currently on birth control pills? | YES | NO |
| 24. Have you recently delivered? | YES | NO |
| 25. Do you have a painful dental condition? | YES | NO |
| 26. Do you have any other medical problem we should know about? | YES | NO |

REMARKS:

1. _____
2. _____
3. _____
4. _____

(A copy of this form is included in the inmate's medical record)

gram have been evident, and the jails have shown considerable interest in improving the health care of inmates. The chief jailer of one of the North Carolina participating jails commented:

I personally feel the AMA Project is fulfilling its goals by upgrading medical care within the jail and detention facilities. Standards of training for officers has improved, which permits the officers to have a better understanding of the medical needs of the inmate. This training is a priority of the Medical Society staff in Raleigh, which reflects their concern for the health delivery system within the jail and detention facility. The profes-

sional skills of the staff in respect to better health care for inmates have enhanced our ability to assure the inmate receives adequate medical treatment during incarceration in the Cumberland County Jail. Close cooperation and coordinated efforts between the State Society staff and the jail facility will assure the inmate of continued adequate medical care during incarceration.

According to the AMA Jail Health Program director, North Carolina's progress in assuring adequate health care in jail has been good. Health care for inmates has improved overall, and some jails are working toward accreditation. The

state medical society will continue to provide technical assistance to ten jails in the state. When a jail becomes accredited or makes sufficient progress so that the society's assistance is no longer needed, the society will solicit new jails as participants. As time permits, it will also provide technical assistance on a limited basis to nonparticipating jails.

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The object of the science of medicine is the prevention and the cure of diseases. Though the noxious agents which surround us are numerous, yet nature supplies, in some measure, the means of preventing and curing their bad effects. Thus the exhalations from putrefying animal matter produce fever; and their disagreeable and horrible stench is a sufficient warning to avoid them: if fever has taken place from this cause, the delirium, and the morbid heat of skin which attend it, inspire an instinctive disposition to plunge into cold water; and the relief produced by it is immediate, and generally certain.

The power of nature alone, though great, is not, however, always sufficient, either to discover these noxious agents, or to remove the diseases produced by them: thus the miasmata from vegetables, though equally baneful with those from animal matter, often give no warning by their smell, and destroy without their danger being anticipated. This is true with regard to many other noxious agents: thus sudden exposure to mephitic airs in descending below the surface of the earth, takes away life; and no instinct, no sense, warn us of our danger. We therefore require other aids than those of nature alone, in avoiding the causes of diseases; and it is the province of the science of medicine to supply them, by a cautious examination of the properties of bodies around us.

Though diseases are often relieved without the assistance of art, yet it is well known that many processes undertaken by nature to repair any injury, are often too violent, and destroy life. Here then art assists; and in doing so, the properties and nature of the system, as also those of external bodies, must be studied, to discover their effects upon it. The mind and the senses, accordingly, are the instruments by which this end is effected. In their application for the purposes of discovery to the world around us, great errors have been committed, and much useful time and labour has been lost, in their direction to the practical duties of our profession. — *Elements of the Theory and Practice of Physic*, by George Gregory, M.D., with notes and additions, adapted to the Practice of the United States, by Nathaniel Potter, M.D., and S. Colhoun, M.D. Vol. 1, Philadelphia, Towar & Hogan, 1829.

YOUR SUPPORT IS NEEDED

CONTRIBUTE TO WORTHY PROJECTS

TAX DEDUCTIBLE

THE NORTH CAROLINA MEDICAL SOCIETY FOUNDATION, INC. was created in 1966 originally to receive funds for the construction of a new headquarters office in Raleigh. However, when other methods of financing a permanent building were devised, the role of the Foundation was changed. This change permitted the N. C. Medical Society Foundation to be approved as a charitable institution empowered to receive TAX EXEMPT contributions for the purposes of education and scientific advancement. The North Carolina Medical Society Foundation, Inc. has a 501(c) (3) letter from the Internal Revenue Service.

Among the contributions made to the Foundation since its inception have been:

- The Forsyth-Stokes Medical Auxiliary Benevolent and Educational Fund in 1971, and
- the assets of the Joseph Ward Hooper, Sr., Trust which were transferred to the Foundation in 1976.

While these examples of group contributions have been greatly appreciated, your individual support is badly needed. Today, after more than 12 years, the resources of the Foundation are still quite limited. As the financial resources grow, the opportunities to use these funds for worthy projects will increase and all of us will benefit by its success.

At this time the Foundation is prepared to:

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Toxic Encounters of the Dangerous Kind

More On Speeding

Because phenylpropanolamine is available over-the-counter, it can be found in many preparations. It is a staple in cold tablets and is also offered as an appetite suppressant.¹ The *PDR*² lists over 100 compounds containing the drug and the *Handbook of Non-Prescription Drugs*,³ 39 not found in the *PDR*. These are given below and 23 others found on shelves and counters of drugstores and supermarkets listed.

Easily Available Drugs Containing Phenylpropanolamine

*PDR*²

Anatuss Tablets & Syrup
Anatuss Tablets & Syrup w/Codeine
Anorexin Capsules
Anorexin One-Span Capsules
Appedrine, Maximum Strength
Bayer Children's Cold Tablets
Bayer Cough Syrup for Children
Brocon C. R. Tablets
Brocon Chewable Tablets
Brophentapp T.D. Tablets
Cenadex
Codimal Expectorant
Comtrex
Conex
Conex with Codeine
Congespirin Liquid Cold Medicine
Control Capsules
Coricidin Children's Cough Syrup
Coricidin Cough Syrup
Coricidin "D" Decongestant Tablets
Coricidin Demilets for Children
Coricidin Sinus Headache Tablets
Coryban-D Capsules
Daycare Daytime Colds Medicine-Liquid
Daycare Multi-Symptom colds
Decon-Aid TR Capsules
Decon-Tuss TR Capsules
Dehist
Deprohist Expectorant w/Codeine
Dexatrim Capsules
Dexatrim Capsules, Extra Strength
Dextrotussin Syrup
Dimetane Expectorant
Dimetane Expectorant-DC
Dimetapp Elixir
Dimetapp Extentabs
Dorcol Pediatric Cough Syrup
Entex Capsules & Liquid

Entex LA Tablets
4-Way Cold Tablets
Fiogesic Tablets
Formula 44D Decongestant Cough Mixture
Histabid Duracap
Histalet Forte Tablets
Histatapp Elixir
Histatapp T.D. Tablets
Hycomine Pediatric Syrup
Hycomine Syrup
Kronohist Kronocaps
Leder-BP
Leder-CC Sequels
Leder-CP1 Sequels
Naldecon
Naldecon-DX Pediatric Syrup
Naldecon-EX Pediatric Drops
Napril Plateau Caps
Nilcol Tablets & Elixir
Nolamine Tablets
Norel Plus Capsules
Norel Plus Injection
Novahistine DH
Novahistine Expectorant
Obestat Long Acting Capsules
Ornade Spansule Capsules
Ornade 2 Liquid for Children
Phenatapp Extend Tablets
Phenylpropanolamine HCl T.D. Capsules
Poly-Histine Expectorant, Plain
Poly-Histine Expectorant with Codeine
Poly-Histine-D Capsules
Poly-Histine-D Elixir
Prolamine Capsules, Super Strength
Protid
Purebrom Compound Elixir
Purebrom Compound Tablets
Resaid T.D. Capsules
Rhindecon Capsules
Rhinedecon-G Capsules
Rhinex D.Lay
Rhinolar Capsules
Rhinolar-EX Capsules
Rhinolar-EX 12 Capsules
Robitussin-CF
Ru-Tuss Expectorant
Ru-Tuss Plain
Ru-Tuss Tablets
Ru-Tuss with Hydrocodone
S-T Forte Syrup & Sugar-Free
Sine-Aid Sinus Headache Tablets

Sinubid
 Sinulin Tablets
 Triaminic Expectorant
 Triaminic Expectorant DH
 Triaminic Expectorant w/Codeine
 Triaminic Preparations
 Triaminic Syrup
 Triaminic-DM Cough Formula
 Triaminicol Decongestant Cough Syrup
 Tusquelin
 Tuss-Ornade
 Vicks Formula 44D Decongestant Cough
 Mixture
 Voxin-PG

Handbook³

Allerest
 Allergesic
 Apcohist Allergy Tablets
 Atussin DM Expectorant
 Atussin Expectorant
 Bayer Decongestant
 Breacol
 C3 Capsules
 Covanamine
 Covangesic
 Diet-Trim
 Endecon
 Extendac
 Grapefruit Diet Plan with Diadax Tablets
 Ginsopan
 Halls
 Lanatuss
 Naldetuss
 Nature's Trim Plan with Diadax Tablets
 Nazac Timed — Disintegration
 Decongestant
 Neophiban
 Odrinex Tablets
 Ornacol Capsules and Liquid
 Prolamine Capsules
 Rhinidrin
 Romilar III
 Ryna-Tussadine Expectorant
 Sinurex
 Sinutab
 Soltice
 Spantac
 Spantrol Capsules

St. Joseph Cold Tablets for Children
 Super Anahist
 Timed Cold Capsules
 Ursinus
 Vasominic
 Ventilade
 Vita-Slim Capsules

Others

Alka-Seltzer Plus Cold Medicine
 CCP Cough and Cold Tablets
 C3 Cold Cough Capsules
 Children's Hold
 Codexin Capsules
 Contac Capsules
 Contac Jr. Children's Cold Medicine
 Dex-A-Diet Capsules
 Dietac Capsules/Drops/Capsules
 Dristan
 Decongestant/Antihistamine/Analgesic
 Capsules
 D-Sinus Capsules
 E-Z Trim Capsules
 Ornex Capsules
 P.V.M. Appetite Control
 Capsules/Tablets
 Sine-Off Extra Strength Sinus Medicine
 Sine-Off Sinus Medicine
 Sinutab Tablets
 Sinutab II Tablets
 Sinutab Extra Strength Capsule Formula
 Sinutab Extra Strength Tablets
 Sucrets Cold Decongestant Formula
 Tussagesic Tablets
 Tussagesic Suspension

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 Winston-Salem, N.C., and
 Chairman, Committee on Accidents
 and Poison Prevention
 North Carolina Chapter of the
 American Academy of Pediatrics

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Editorials

JOHN S. RHODES, M.D.

Our masthead no longer shows the name of John Rhodes as associate editor. With a real sense of loss, we have acquiesced in his desire to leave the *Journal*. When I became editor, his kindness, knowledge of the state and of our society and ability to provide the quiet support that helps one accommodate to a new world quickly were invaluable and have continued to be so. He shares many of those enviable traits of the founder of this *Journal*, Wingate Johnson, not the least the ability to recognize that what is right for patients is right for medicine and to act accordingly.

His successor, Jack Hughes, is also a urologist with similar attributes: experience in the society, an appreciation of the complexities of modern medicine and a broad understanding of the trends and events which determine what North Carolina is and will be. Isak Dinesen, the Danish author, has suggested that the body may be well considered as an elegant means of converting wine into water. Urologists and nephrologists have assumed the medical responsibility for maintaining the integrity of this system. The two of us, nephrologist and urologist, under your direction through the editorial board, will strive in the editorial arena to keep the *Journal* healthy and to ensure appropriate verbal output in our pages.

J.H.F.

MEDICINE IN THE WORKPLACE

The Food and Drug Administration (FDA) has recently decreed that descriptive leaflets must be provided patients when they have prescriptions filled for 10 drugs including the three most commonly used psychoactive agents. The action was almost certainly prompted, at least in part, by concern that too many people are taking too much psychoactive drug too casually. Proctor's report in this issue of the *Journal* suggests, however, that things in some workplaces may not be as bad as they seem. But good news competes poorly with gloom and doom dispensed by newspapers, magazines and television stations.

Proctor's study of course is limited but its very limitations should provoke questions and stimulate investigators. No comparative data are provided about quantities of drug consumed nor are the hazards of employment in the furniture industry described. What is the pattern of drug use in the textile and tobacco industries? Are there regional differences in prescription drug consumption? What proprietary

preparations were being used simultaneously by his respondents? How compliant were respondents in following their physicians' instructions? How frequently were the users of diazepam being seen by their doctors? Why were psychoactive agents prescribed for them in the first place?

Before becoming overly optimistic about the benignity and beneficence of diazepam, we should consider the plight of phenacetin which has recently been vanquished from the marketplace by the FDA. For some years Swiss, Scandinavian and Australian observers have been warning us that analgesic compounds when abused can lead to serious renal disease. Analgesic abuse is more common in the South and particularly in the North Carolina textile belt where such practice has important implications for dialysis and transplant programs.¹ Gonwa and his colleagues in Winston-Salem have recently reported the largest series in this country of patients with transitional cell carcinoma of the urinary tract attributable to analgesic abuse, emphasizing the latency of phenacetin and its metabolites as carcinogenic compounds.² So prolonged observation of the effects of psychoactive drugs in the workplace is essential.

J.H.F.

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THE PRICE OF CIVILIZATION OR YOUR pH HANGS IN THE BALANCE

Our Western way of life has its advocates. We have after all vanquished smallpox and nearly annihilated many other plagues of the past and can claim as triumph the lengthening of life and the decreasing of infant mortality. But our critics point out that we have contaminated the earth, that as our ancestors we suffer sickness because of the sin of conspicuous consumption — of salt, coffee, fat, cigarettes, gasoline, coal. As the conservative says, yesterday will be wonderful, so the liberal responds, tomorrow was grand.

But what of the now where we pay our taxes and listen for the sounds of falling hair and hardening arteries? Accept it, deny it, ignore it or simply keep going? When we are uncertain we can contemplate our image in the mirror in the hope that this will lead us to

deliverance but before doing so we must recall what a seer said about Narcissus, the Thespian: "Narcissus will live to a ripe old age, provided that he never knows himself." But he fell in love with his own reflection in a spring and tried to possess himself. Failing, he stabbed himself and where his blood fell to earth the Narcissus grew and bloomed.

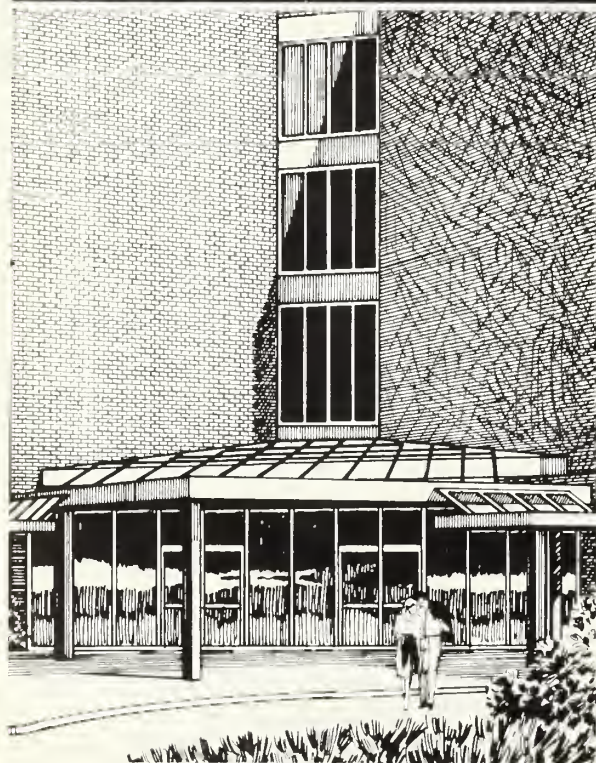
Self-love can be appealed to and controlled; it need not lead to suicide. In fact serving such needs is big business which may even incorporate a drop or two of elixir of science in its cosmetic distillations. Take the male face, so vulnerable to razor nicks, so necessary to be saved in critical personal encounters. What can one do about one's face and avoid being called narcissistic? According to a buyer for Bloomingdale's in New York, men are showing signs of sophistication

"from the neck up." Today we are using moisturizers, restoring our facial pH balance, bronzing our skin without sun and applying RNA biocomplex creams as well as a whole host of other mysterious revivifying unguents. The pH balancer is the liquid gel Aramis which presumably deciphers the Henderson-Hasselbach equation between forehead and chin, negates wrinkles, reverses the alkaline tide of tears shed for lost youth and helps us pass the acid test.

Remember Dumas's rollicking adventure, *The Three Musketeers*, Porthos, Athos and Aramis. That Aramis retreated so from his worldly self that he entered a monastery. Today's Aramis subtly insinuates a different vision — that a man who uses the right cosmetics is his own best friend.

J.H.F.

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Paying Today Gives Patients a Pain

By Karen Zupko
Director, AMA
Department of Practice Management

Has this scene occurred lately in your office?

"Mr. Patient, that will be \$25.00 for today's visit," says your medical assistant.

Angry and red-faced Mr. Patient replies, "Well I've always paid my bill here. Why don't you just send me a statement like you always do?"

"Because, sir, this is our new policy," your assistant curtly replies.

Meanwhile, all the patients in the reception room have put down *Newsweek*, *Ladies Home Journal*, and last year's copy of *Ski* magazine. They are sitting at the end of their chairs, eagerly listening to see how Mr. Patient is going to get out of this and wondering how they'll handle the situation when they're confronted with their bill for your services.

Embarrassed, Mr. Patient, tells the assistant he doesn't have his checkbook and he leaves with her calling out "But don't forget next time!"

Well, the truth is there may not be a next time. Mr. Patient may decide to go elsewhere for his medical care.

But this doesn't have to be the case. If your office is one of the many all across the country now asking patients to pay for their office visits on the same day you can implement the policy successfully and still keep your patients happy by following a few easy procedures.

First, we recommend that you send all of your established patients a letter explaining the new policy. It will help reduce long telephone explanations for your assistants and eliminate the surprise factor that so many patients resent. Send the letter on your stationery about two to three months before implementing the policy. It might say something like this.

Dear Patient,

Inflation is a growing problem for everyone, including medical offices. Today we find ourselves

confronted with ever-increasing costs for almost every supply and service we use in rendering professional care to you.

Rather than raise our fees now, which we may have to do from time to time, we are asking your help in a new cost-cutting plan. Beginning on (give a date two to three months in advance) we will ask you to pay for your office call at the time of your visit. By asking you to do this we can significantly reduce the costs of billing and bookkeeping.

We understand that occasions may arise when it will be necessary for you to ask for a statement rather than paying at the time of service. We also recognize, as we always have that patients who require extensive treatment may need payment plans.

We wanted to explain this new system to you well in advance because your understanding and cooperation are so important. Please remember that if you have questions about this or any other office policy or procedure we will be pleased to discuss them with you. We value you, our patient, and will continue to provide you with our best professional care.

Sincerely,
XYZ Medical Office

But your patient relations effort shouldn't stop here. Next, you and your front office personnel need to discuss how firm you plan to be and this varies from office to office. In any case, your medical assistants need to know what you're thinking is on this topic and be assured that you're going to back them up. (No fair for the doctor to tell patients "not to worry about the bill" if they ask about your fees in the examining room unless you *mean* just that!)

Your medical assistants should also make a point of reminding patients of the new policy when they call to make an appointment. For example they can say, "Mrs. Black, we have you scheduled for next Tuesday at 2:00 p.m. Your office visit will be \$10.00 and any lab work the doctor orders will

be extra." If Mrs. Black objects, your assistant can remind her about the letter and that this request is being made of all patients. If Mrs. Black says she won't be able to pay, your assistant should probably go ahead and keep the appointment for her and tell her she's making a note of the agreement to send a statement on Mrs. Black's ledger card. Later, you or your bookkeeper may want to have a private conversation with Mrs. Black if she persists in being an exception to the rule.

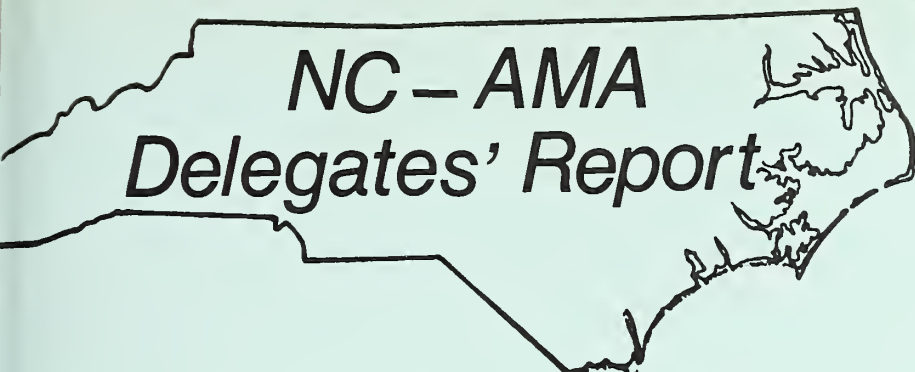
Office layout and design also play a part in making this policy work successfully. It's going to be much easier, if you have a separate check out counter, away from the reception room or an area that gives your assistant and the patient some degree of privacy. It will allow the patient to give an honest explanation of their circumstance and your assistant the ability to make some arrangement to suit that patient's needs without curious eyes and ears, looking and listening. If you need to build a wall or install a door, do so. It's going to be worth the investment.

How should your assistant ask for payment? That depends on you. Offices taking the more flexible approach, simply have the assistant say, "Mr. Patient, your visit today is \$15.00 or, "Mr. Patient, your visit is \$15.00 and we invite payment

today." The office that is willing to take a more aggressive approach has the assistant say, "Mr. Patient, your visit today is \$15.00." "Would you like to pay by cash or check?" Both are better techniques than simply saying, "Your visit today is \$15.00, would you like to pay?" No one would *like* to pay today—anywhere, anytime, including your office! This simply invites, the "send me a bill" response.

Now, what happens if the patient says, "Gee, you know I always try to come prepared, but today, I forgot my checkbook." That's going to happen sometimes, and your assistant should be prepared. She should say, "Miss Patient, that's okay, we understand, here's your statement and an *envelope* please mail your payment, just as soon as you can." Most offices report that they receive payment in a few days, without ever having to send a bill. You might make that return envelope a color so it's easy to spot when the payment comes in.

The important thing to keep in mind about asking for payment at the time of service is good patient relations and that you're going to have to make exceptions. With these two thoughts in mind, you're sure to succeed, without giving your patients a new pain.



NC - AMA Delegates' Report

1981
ANNUAL MEETING
AMA House of Delegates

NORTH CAROLINA CAME HOME THE VICTOR WITH THE ELECTION OF ONE OF ITS DELEGATES, JAMES E. DAVIS, M.D., OF DURHAM, TO THE POSITION OF VICE-SPEAKER OF THE AMA HOUSE OF DELEGATES, AT THE JUNE 7-11 MEETING IN CHICAGO.

IT WAS A BUSY SESSION. WITH SO MUCH BUSINESS, THIS REPORT OBVIOUSLY CAN ONLY TOUCH BRIEFLY ON A FEW MAJOR ITEMS.

REORGANIZATION AND DUES INCREASE

A MAJOR BOARD OF TRUSTEES' REPORT CALLING FOR REORGANIZATION OF AMA STRUCTURE AND STAFF AND A \$35 ANNUAL DUES INCREASE RECEIVED MOST ATTENTION. WE APPROVED MOST BOARD PROPOSALS. THE 1982 DUES WILL BE \$285 FOR REGULAR MEMBERS. MEDICAL STUDENT AND RESIDENT DUES REMAIN AT \$15 AND \$35 RESPECTIVELY.

IN ADOPTING A NEW FUNCTIONAL PROFILE FOR THE AMA, THE HOUSE CALLED FOR REPRESENTATION OF THE MEDICAL PROFESSION TO BE THE NUMBER ONE PRIORITY FOR THE ASSOCIATION. OTHER PRIMARY FUNCTIONS ARE:

- PROVIDING INFORMATION, BOTH SCIENTIFIC AND SOCIO-ECONOMIC
- ESTABLISHING AND MAINTAINING STANDARDS OF CONDUCT AND PERFORMANCE
- SHARING WITH OTHER ORGANIZATIONS THE MAINTENANCE AND IMPLEMENTATION OF EDUCATIONAL STANDARDS.

IN RECOGNITION OF THE SPECIAL FINANCIAL CIRCUMSTANCES OF NEW PHYSICIANS AND THOSE IN MILITARY SERVICE, THE HOUSE ADOPTED SOME DUES INCENTIVES. WE NEED TO ENCOURAGE PHYSICIANS TO JOIN AND BECOME INVOLVED IN ORGANIZED MEDICINE EARLY IN THEIR MEDICAL CAREER. YOUNG PHYSICIANS IN THE FIRST YEAR OF PRACTICE NOW PAY 50% OF THE REGULAR DUES; AND AT THE RECENT MEETING, THE HOUSE VOTED TO SET THE DUES OF PHYSICIANS IN THEIR SECOND YEAR OF PRACTICE AT 75%

OF REGULAR DUES. BEGINNING IN 1982, PHYSICIANS IN MILITARY SERVICE WILL PAY TWO-THIRDS OF REGULAR DUES.

DIRECT MEMBERSHIP

IN A MAJOR DECISION WITH FAR-REACHING IMPLICATIONS FOR THE STRENGTH AND VITALITY OF THE AMA, WE CHANGED THE BYLAWS TO ESTABLISH A DIRECT AMA MEMBERSHIP OPTION. THE AMA WILL PUT ITS FIRST EMPHASIS ON RECRUITING MEMBERS IN COOPERATION WITH STATE MEDICAL SOCIETIES THAT JOIN WITH THE AMA IN A COORDINATED MARKETING CAMPAIGN.

WE LEARNED THAT ALTHOUGH AMA MEMBERSHIP HAS INCREASED IN ABSOLUTE NUMBERS, THERE ARE STILL 241,000 PHYSICIANS WHO DO NOT BELONG. OF THESE, 178,000 ALSO DO NOT BELONG TO STATE OR COUNTY MEDICAL SOCIETIES.

IN ADDITION TO THIS DIRECT MEMBERSHIP OPTION, WE CHANGED THE BYLAWS SO THAT DIRECT MEMBERS WILL BE COUNTED TOWARD DETERMINING THE NUMBER OF DELEGATES FROM EACH STATE SOCIETY.

THE AMA WILL BILL ALL NON-MEMBER PHYSICIANS AND MEDICAL STUDENTS AFTER THE APRIL 30 DELINQUENCY DATE EACH YEAR. LISTS OF THOSE PHYSICIANS WHO APPLY FOR AMA DIRECT MEMBERSHIP WILL BE SENT TO STATE MEDICAL ASSOCIATIONS FOR REVIEW BEFORE PROCESSING IS COMPLETED. ALL OBJECTIONS TO APPLICANTS FOR DIRECT MEMBERSHIP WILL BE REFERRED TO THE JUDICIAL COUNCIL FOR PROMPT DISPOSITION. ACCEPTED PHYSICIANS AND STUDENTS WILL BE URGED TO JOIN STATE AND COUNTY SOCIETIES.

A FULL REVIEW AND REAPPRAISAL OF THE DIRECT MEMBERSHIP PROGRAM AFTER THREE YEARS WAS DIRECTED BY THE HOUSE.

COMPETITION LEGISLATION

THE HOUSE ADOPTED A COMPREHENSIVE REPORT OF THE BOARD OF TRUSTEES PERTAINING TO "PRO-COMPETITION" NATIONAL HEALTH INSURANCE PROPOSALS NOW UNDER CONSIDERATION BY THE CONGRESS. THE BOARD WITH CONCURRENCE FROM THE COUNCIL ON LEGISLATION AND THE COUNCIL ON MEDICAL SERVICE EXPRESSED SOME SERIOUS CONCERNS WITH THESE BILLS AND HOW THESE PROPOSALS WOULD AFFECT THE WAY MEDICINE WILL BE PRACTICE IN THE FUTURE.

THE COMPETITION PROPOSALS WOULD RESULT IN A SHIFT IN THE WAY MEDICAL SERVICES ARE DELIVERED. CURRENTLY, MEDICAL CARE IS DELIVERED THROUGH A DECENTRALIZED MARKET. THESE PROPOSALS ASSUME THAT GIVEN A COST INCENTIVE, PATIENTS WILL ACCEPT RESPONSIBILITY FOR FIRST DOLLAR HEALTH CARE COSTS AND CHOOSE A HEALTH INSURANCE PLAN WITH FEWER BENEFITS. THUS, IT IS ASSUMED THE PATIENT WILL BE MOTIVATED TO USE FEWER HEALTH CARE SERVICES.

THE AMA BELIEVES THAT THE LIKELY RESULT WILL BE MARKET CONCENTRATION. THE REPORT SAID "SPONSORS OF INSURANCE PLANS, PARTICULARLY UNDER THE MORE COMPREHENSIVE COMPETITION MODELS, WOULD BE EXPECTED TO EXERCISE THEIR PURCHASING POWER TO CONTROL SELECTION OF PROVIDERS AND FACILITIES THROUGH SPECIAL ARRANGEMENTS WITH THEM".

THE HOUSE CONCURRED WITH THE BOARD'S CONCLUSION THAT THE ADVOCATES OF COMPETITION ASSUME THAT PATIENTS ARE PREOCCUPIED WITH PRICE AND THAT THIS ASSUMPTION IS YET TO BE FULLY DEMONSTRATED. ACCESSIBILITY, RELIABILITY, AND QUALITY ARE JUST AS IMPORTANT--AND MAYBE MORE SO--THAN PRICE.

IN OTHER ACTIONS, THE HOUSE VOTED TO:

- SUPPORT THE ELIMINATION OF GOVERNMENT FUNDS FOR NEW START-UPS OF HEALTH MAINTENANCE ORGANIZATIONS AND FOR THE TERMINATION OF FUNDS FOR OTHER HMO'S AFTER COMPLETION OF THE CURRENT FUNDING CYCLE.
- ENDORSE THE CONCEPT OF EQUAL RIGHTS FOR MEN AND WOMEN, BUT NOT THE EQUAL RIGHTS AMENDMENT.
- RECOMMEND TO HOSPITAL STAFFS THAT ADMISSION HISTORIES AND PHYSICALS BE PERFORMED ONLY BY PHYSICIANS.
- URGE THE FOOD AND DRUG ADMINISTRATION TO ACCELERATE REVIEW OF DRUGS ON ITS "LACKING EVIDENCE OF EFFECTIVENESS LIST".
- URGE THE FEDERAL AVIATION AGENCY TO STUDY MEDICAL EMERGENCIES ON COMMERCIAL PLANES AND HOW CURRENTLY TREATED WITH THE REQUIRED MEDICAL KITS.
- SUPPORT A BILL PLACING A MORATORIUM ON FEDERAL TRADE COMMISSION ACTIVITIES INVOLVING PROFESSIONALS.
- OPPOSE STATE LAWS MAKING A PHYSICIAN'S LICENSURE CONTINGENT UPON PROVIDING SERVICES TO MEDICAID BENEFICIARIES OR ANY OTHER SPECIFIED CATEGORY OF PATIENTS.

--HAVE THE AMA DEVELOP AN EDUCATIONAL PROGRAM DEALING WITH CHILD MOLESTATION, INCEST, AND EXPLOITATION OF CHILDREN.

WITH 283 DELEGATES, THIS WAS THE LARGEST HOUSE IN AMA'S HISTORY. FIVE STATE SOCIETIES RECEIVED AN ADDITIONAL DELEGATE SEAT DUE TO MEMBERSHIP INCREASES.

THE HOUSE POSTPONED GRANTING DELEGATE SEATS TO SEVERAL ADDITIONAL SPECIALTY SOCIETIES. THE BOARD WAS ASKED TO REVIEW THE ISSUE AND REPORT BACK. THE REFERENCE COMMITTEE NOTED THAT THERE WERE MANY OBJECTIONS TO GRANTING REPRESENTATION IN THE HOUSE TO ORGANIZATIONS OF SUB-SPECIALTIES WITH OVERLAPPING MEMBERSHIPS. THERE ARE CURRENTLY 56 NATIONAL SPECIALTY SOCIETIES WITH REPRESENTATION IN THE HOUSE.

REFER TO THE JUNE 19/26 ISSUE OF AMERICAN MEDICAL NEWS FOR MORE DETAILED CONVENTION COVERAGE.

AMA HOUSE MEETINGS PROVIDE A UNIQUE EDUCATIONAL OPPORTUNITY, AND WE ENCOURAGE YOU TO ATTEND AND PARTICIPATE. ANY MEMBER OF THE ASSOCIATION MAY PRESENT TESTIMONY AT THE REFERENCE COMMITTEE HEARINGS AND, OF COURSE, CORRIDOR DISCUSSIONS ON THE ISSUES PROVIDE AMPLE OPPORTUNITIES TO GET YOUR VIEWS ACROSS.

IF YOU CAN'T ATTEND THE MEETING YOU CAN STILL BE REPRESENTED THROUGH YOUR DELEGATE. PLEASE LET YOUR DELEGATION KNOW YOUR OPINIONS. YOU CAN ALSO PREPARE A RESOLUTION AND REQUEST THAT IT BE SUBMITTED TO THE HOUSE.

MANY, MANY AMA POLICIES BEGAN WITH AN INDIVIDUAL PHYSICIAN WHO HAD A GOOD IDEA AND DEVELOPED IT THROUGH THE DEMOCRATIC PROCESS.

DELEGATES

DAVID G. WELTON, M.D., CHAIRMAN

JOHN GLASSON, M.D.

JAMES E. DAVIS, M.D.

FRANK R. REYNOLDS, M.D.

LOUIS DES. SHAFFNER, M.D.



For the pain of osteoarthritis
the proven power of

Motrin[®]
ibuprofen, Upjohn
600 mg Tablets
One tablet t.i.d.

Please see the following page for a brief summary of prescribing information.

Upjohn

Motrin® Tablets (ibuprofen, Upjohn)

Contraindications: Individuals hypersensitive to it, or with the syndrome of nasal polyps, angioedema, and bronchospastic reactivity to aspirin, iodides, or other non-steroidal anti-inflammatory agents. Anaphylactoid reactions have occurred in such patients.

Warnings: Peptic ulceration and gastrointestinal bleeding, sometimes severe, have been reported. Ulceration, perforation, and bleeding may end fatally. An association has not been established. *Motrin* should be given under close supervision to patients with a history of upper gastrointestinal tract disease, only after consulting ADVERSE REACTIONS.

In patients with active peptic ulcer and active rheumatoid arthritis, nonulcerogenic drugs, such as gold, should be tried. If *Motrin* must be given, the patient should be under close supervision for signs of ulcer perforation or gastrointestinal bleeding.

Chronic studies in rats and monkeys have shown mild renal toxicity characterized by papillary edema and necrosis. Renal papillary necrosis has rarely been shown in humans treated with *Motrin*.

Precautions: Blurred and/or diminished vision, scotomata, and/or changes in color vision have been reported. If these develop, discontinue *Motrin* and the patient should have an ophthalmologic examination, including central visual fields and color vision testing. **Fluid retention and edema** have been associated with *Motrin*; use with caution in patients with a history of cardiac decompensation or hypertension. *Motrin* is excreted mainly by the kidneys. In patients with renal impairment, reduced dosage may be necessary. Prospective studies of *Motrin* safety in patients with chronic renal failure have not been done. *Motrin* can inhibit platelet aggregation and prolong bleeding time. Use with caution in persons with intrinsic coagulation defects and those on anticoagulant therapy. Patients should report signs or symptoms of **gastrointestinal ulceration** or bleeding, blurred vision or other eye symptoms, skin rash, weight gain, or edema. To avoid exacerbation of disease or adrenal insufficiency, patients on prolonged **corticosteroid therapy** should have therapy tapered slowly when *Motrin* is added. The anti-pyretic, anti-inflammatory activity of *Motrin* may mask inflammation and fever.

Drug interactions. *Aspirin*, used concomitantly may decrease *Motrin* blood levels.

Coumarin: bleeding has been reported in patients taking *Motrin* and coumarin.

Pregnancy and nursing mothers: *Motrin* should not be taken during pregnancy nor by nursing mothers.

Adverse Reactions

The most frequent type of adverse reaction occurring with *Motrin* is gastrointestinal, of which one or more occurred in 4% to 16% of the patients.

Incidence Greater Than 1% (but less than 3%)—Probable Causal Relationship

Gastrointestinal: Nausea^{*}, epigastric pain^{*}, heartburn^{*}, diarrhea, abdominal distress, nausea and vomiting, indigestion, constipation, abdominal cramps or pain, fullness of GI tract (bloating and flatulence); **Central Nervous System:** Dizziness^{*}, headache, nervousness; **Dermatologic:** Rash^{*} (including maculopapular type), pruritus; **Special Senses:** Tinnitus; **Metabolic/Endocrine:** Decreased appetite; **Cardiovascular:** Edema, fluid retention (generally responds promptly to drug discontinuation; see PRECAUTIONS).

Incidence Less Than 1%—Probable Causal Relationship**

Gastrointestinal: Gastric or duodenal ulcer with bleeding and/or perforation, gastrointestinal hemorrhage, melena, gastritis, hepatitis, jaundice, abnormal liver function tests; **Central Nervous System:** Depression, insomnia, confusion, emotional lability, somnolence, aseptic meningitis with fever and coma; **Dermatologic:** Vesiculobullous eruptions, urticaria, erythema multiforme, Stevens-Johnson syndrome, alopecia; **Special Senses:** Hearing loss, amblyopia (blurred and/or diminished vision, scotomata, and/or changes in color vision) (see PRECAUTIONS); **Hematologic:** Neutropenia, agranulocytosis, aplastic anemia, hemolytic anemia (sometimes Coombs' positive), thrombocytopenia with or without purpura, eosinophilia, decreases in hemoglobin and hematocrit; **Cardiovascular:** Congestive heart failure in patients with marginal cardiac function, elevated blood pressure, palpitations; **Allergic:** Syndrome of abdominal pain, fever, chills, nausea and vomiting, anaphylaxis, bronchospasm (see CONTRAINDICATIONS); **Renal:** Acute renal failure in patients with preexisting, significantly impaired renal function, decreased creatinine clearance, polyuria, azotemia, cystitis, hematuria; **Miscellaneous:** Dry eyes and mouth, gingival ulcer, rhinitis.

Incidence Less Than 1%—Causal Relationship Unknown**

Gastrointestinal: Pancreatitis; **Central Nervous System:** Paresthesias, hallucinations, dream abnormalities, pseudotumor cerebri; **Dermatologic:** Toxic epidermal necrolysis, photoallergic skin reactions; **Special Senses:** Conjunctivitis, diplopia, optic neuritis; **Hematologic:** Bleeding episodes (e.g., epistaxis, menorrhagia); **Metabolic/Endocrine:** Gynecomastia, hypoglycemic reaction; **Cardiovascular:** Arrhythmia (sinus tachycardia, sinus bradycardia); **Allergic:** Serum sickness, lupus erythematosus syndrome, Henoch-Schönlein vasculitis; **Renal:** Renal papillary necrosis.

^{*} Reactions occurring in 3% to 9% of patients treated with *Motrin*. (Those reactions occurring in less than 3% of the patients are unmarked.)

^{**} Reactions are classified under "Probable Causal Relationship" (PCR) if there has been one positive rechallenge or if three or more cases occur which might be causally related. Reactions are classified under "Causal Relationship Unknown" if seven or more events have been reported but the criteria for PCR have not been met.

Overdosage: In cases of acute overdosage, the stomach should be emptied. The drug is acidic and excreted in the urine, so alkaline diuresis may be beneficial.

Dosage and Administration: Do not exceed 2400 mg per day. If gastrointestinal complaints occur, administer with meals or milk.

Rheumatoid arthritis and osteoarthritis, including flares of chronic disease: Suggested dosage is 300, 400, or 600 mg t.i.d. or q.i.d. Mild to moderate pain: 400 mg every 4 to 6 hours as necessary for relief of pain.

Caution: Federal law prohibits dispensing without prescription.



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MED B-5-S

Bulletin Board

NEW MEMBERS of the State Society

BLADEN

Shieh, Richard Chen Hai, (R) P.O. Box 398, Hospital Drive, Elizabethtown 28337

CUMBERLAND

Osman, Magdy, (RESIDENT) 6309 Bell Terre Court, Fayetteville 28304

DURHAM-ORANGE

Alva, Juan, (IM) 600 Yorktown Drive, Chapel Hill 27514
Brady, Jr., Joseph Lawrence, (STUDENT) 425-A Cameron Avenue, Chapel Hill 27514
Bukowski, Elaine Marie, (AN) 600 Brookview Drive, Chapel Hill 27514
Friedman, Allan Howard, (NS) Box 3807, Duke Medical Center, Durham 27710
Houpt, Jeffrey Lyle, (P) 4533 Hunter's Ridge Trail, Durham 27707
Levy, Stanley Benjamin, (D) 861 Willow Drive, Chapel Hill 27514
Michener, James Lloyd, (RESIDENT) 407 Crutchfield Street, Durham 27704
Morse, Martin Albert, (STUDENT) 210 Alexander Ave., Apt. H, Durham 27705
Nile, Peggy Leigh, (STUDENT) Box 2840, Duke Medical Center, Durham 27710
Stankus, Paul Victor, (AN) 151 Dixie Drive, Chapel Hill 27514
Stevens, Scott David, (STUDENT) Box 2794, Duke Medical Center, Durham 27710
Turpin, James Wesley, (OM) 107 Longwood Drive, Chapel Hill 27514
Wechsler, Andrew Stephen, (TS) Box 3174, Duke Medical Center, Durham 27710

FORSYTH-STOKES-DAVIE

Adkins, Thomas Green, (RESIDENT) 408 Lawndale Drive, Winston-Salem 27104

GUILFORD

Badawi, Raouf Fahmy, (P) 212-A W. Wendover Avenue, Greensboro 27401
Holderness, Jr., Howard, (PS) 200 E. Northwood St., Ste. 400, Greensboro 27401

MADISON

Carr, Douglas Willits, (GP) Route #3, Box 57, Mars Hill 28754

MECKLENBURG

Black, Edward Barnwell, (R) 3665 Pelham Lane, Charlotte 28211
Short, Jr., Earl Degrey, (P) 3224 Chancer Drive, Charlotte 28210

NEW HANOVER-BRUNSWICK-PENDER

Rallis, Michael George, (IM) 301 S. McNeil Street, P.O. Box 1179, Burgaw 28425

PITT

Anderson, Charles Lynn, (RESIDENT) 121 N. Woodlawn, Greenville 27834
McGilliarddy, Denis Michael, (ORS) 307 Windsor Street, Greenville 27834

SURRY-YADKIN

Beeson, Broadus Monroe, (FP) East Bend Community Health Ctr., Box 126, East Bend 27018
Bryant, James Edwin, (IM) Route #2, Box 211 F24, Yadkinville 27055

WAKE

Dascomb, Harry Emerson, (IM) 11504 Bainbridge Terrace, Coachman's Trail, Raleigh 27617
Pomerans, Mark, 5505 Knollwood Drive, Raleigh 27609

WILSON

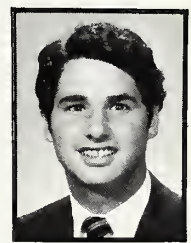
Holland, James Eugene, (OPH) 1700 S. Tarboro Street, Carolina Clinic, Inc., Wilson 27893

WHAT? WHEN? WHERE? In Continuing Education

Please note: 1. The continuing Medical Education Programs at Bowman Gray, Duke, East Carolina and UNC Schools of Medicine, Dorothea Dix, and Burroughs Wellcome Company are accredited by the American Medical Association. Therefore CME programs sponsored or cosponsored by these schools automatically qualify for AMA Category I credit toward the AMA's Physician Recognition Award, and for North Carolina Medical Society Cate-



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gory A credit. Where AAFP credit has been requested or obtained, this also is indicated.

2. The "place" and "sponsor" are indicated for a program only when these differ from the place and source to write "for information."

September 15

5th Annual Cape Fear Medical Symposium

"Update in Infectious Diseases"

Place: Bordeaux Motor Inn, Fayetteville

Credit: 7 hours

For Information: Mrs. Mary Henley, Fayetteville Area Health Education Center, P.O. Box 64699, Fayetteville, N.C., 28306 or 919/323-1152.

September 16

"Cardiac Rehabilitation and Consequences of Stress"

Place: Central Carolina Hospital, Sanford

Credit: 15 hours

Fee: \$10

For Information: R. S. Cline, M.D., 919/774-4111, Lee County Hospital, Sanford 27330

September 25-26

"Dermatology for the Non-Dermatologist"

Place: Wilmington Hilton

Credit: 7 hours

Fee: \$50

For Information: W. B. Wood, M.D., Office of Continuing Education, 231 McNider Building, UNC School of Medicine, Chapel Hill 27514 919-933-2118

September 29-October 1

"1981 Duke Cardiac Arrhythmia Course"

Place: Rauch Conference Room, Rm. 15103—Morris Bldg., Duke South

Credit: 17 hours

Fee: \$175

For Information: Galen Wagner, M.D., Box 31211, Duke Univ. Med. Ctr., Durham 27710 919-681-2255

October 1-3

"Natural Abilities and Perceived Worth: Rights, Values and Retarded Persons"

12th Symposium on Philosophy and Medicine

Place: Greenville

For Information: Loretta Kopelman, ECU School of Medicine, Greenville 27834 919-757-4624

October 1-4

The 1981 Duke University Invitational Assembly for Advanced Urology

"Diseases of the Lower Urinary Tract"

Place: Pinehurst Hotel and Country Club

For Information: David F. Paulson, M.D., Duke Univ. Med. Ctr., Durham 919-684-2033

October 9

"11th Annual Seminar in Medicine (Hypertension)"

Place: Bowman Gray School of Medicine

Credit: 6 hours

Fee: \$60

For Information: Emery C. Miller, M.D., 300 S. Hawthorne Road, Bowman Gray School of Medicine, Winston-Salem 27103 919-748-4450

October 21-22

"Office Treatment of Depression"

Place: Carolina Inn, Chapel Hill

Fee: \$20

For Information: J. Ingram Walker, M.D., Dept. of Psychiatry, 508 Fulton Street, Durham 27705 919-286-4011, Ext. 6651

October 22

"Headache"

Place: Burroughs Wellcome, Research Triangle Park

Credit: 4 hours

Fee: None

For Information: Mrs. Sandy Foster 919-541-9090

**IF YOUR PATIENT TELLS US
SHE'S PREGNANT,
SHE WON'T GET A LECTURE.
SHE'LL GET HELP.**

**Free, professional problem pregnancy counseling.
If she can't come to us, we'll come to her.**

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Fayetteville (919) 483-8913

Greensboro (919) 274-1538

Greenville (919) 752-5847

Member Child Welfare League of America. Founded 1902.

October 22-23

"Pediatric Pathology Club"
Place: Duke Univ. Medical Center
Credit: 16 hours
Fee: \$120
For Information: William D. Bradford, M.D., Box 3712, Duke Univ. Med. Ctr., Durham 27710

October 25-26

"Technique of Pacemaker Implantation & New Types"
Place: Bowman Gray School of Medicine
Credit: 9 hours
Fee: \$60
For Information: Emery C. Miller, M.D., 300 South Hawthorne Street, Bowman Gray School of Medicine, Winston-Salem 27104 919-748-4450

October 30-31

"Understanding and Treatment of the Aggressive Adolescent"
Place: Searle Center for Continuing Education, Duke University Medical Center
Credit: 11 hours
Fee: \$175
For Information: J. Ingram Walker, M.D., Duke University Medical Center 919-684-2711, Ext. 303

October 30-31

"14th Annual Malignant Disease Symposium on Abdominal and Extremity Tumors"
Place: UNC School of Medicine
Credit: 11 hours
Fee: \$100
For Information: Mimi Minkoff, Cancer Research Center, Box 30 MacNider Bldg, Chapel Hill 27514

October 31-November 2

"Advanced Cardiac Life Support Instructors Course"
Place: Bowman Gray School of Medicine
Credit: 22 hours
Fee: \$300
For Information: Emery C. Miller, M.D. 919-748-4450

November 6

"Alumni Scientific Sessions"
Place: Bowman Gray School of Medicine
Credit: 6 hours
Fee: None
For Information: Emery C. Miller, M.D. 919-748-4450

November 20-23

"Multiple Sclerosis for Practicing Physicians"
Place: Duke University Medical School
Credit: 9 hours
Fee: \$10
For Information: Allen D. Roses, M.D. 919-683-6274

IN CONTIGUOUS STATES

August 10-11

"Antibiotic Review — 1981"
Place: Washington, D.C.
For Information: Sandy McMillan, 67 Peachtree Park Dr., Suite 221-D, Atlanta, Ga. 30309

September 3-4

"Advances in Clinical Nutrition"
Place: Sea Pines Resort, Hilton Head Island, South Carolina
For Information: Julie Bishop, A.S.P.E.N., Suite 810, 1025 Vermont Avenue, N.W., Washington, D.C. 20005 202-638-5881

September 25

"Environmental Insults to the Fetus and the Newborn"
Place: Richmond Hyatt, Richmond, Va.
For Information: Kathy E. Johnson 804-786-0494

The items listed in the above column are for the six months immediately following the month of publication. Requests for listing should be received by "WHAT? WHEN? WHERE?", P.O. Box 27167, Raleigh 27611, by the 10th of the month prior to the month in which they are to appear. A "Request for Listing" form is available on request.

**AUXILIARY TO THE NORTH CAROLINA
MEDICAL SOCIETY**

INAUGURAL ADDRESS

May 8, 1981

Life Is a Celebration

Today is a celebration! It is a celebration of the achievements of a year gone by too fast, and the promises of the one to come. More than that, it is the celebration of the last of the three Ann's. Today marks the beginning of the end of Ann-era.

Does it appear that during the coming year I am suggesting we celebrate everything — from the opening of a manhole to the closing of a door? Heavens, no! I firmly believe in honoring the ceremonies of life with fireworks, bands, presents, balloons, the whole bit. They are the warp and woof of the fabric which weaves the family together. However, we have much serious business to address in this organization with very little time for champagne breaks. I am suggesting that we approach our goals in the medical auxiliary with enthusiasm. "Life is a Celebration" implies that life is important for everyone — regardless of age or gender or physical condition. Life as a celebration conveys hope, which is one of the best medicines in the world. Certainly our physician husbands are dispensers of hope, and if we as auxiliaries are to work in partnership with them to augment their capacity to keep people healthy, we too should be dispensers of hope.

It is very difficult to achieve our goals without members, but in order to attract and keep members we have to make it worth their while. This requires planning with strong programming and interesting, feasible, pertinent projects. In no way do I discount the social aspects of medical auxiliary, but if all we can offer is a cup of tea and over-the-fence gossip we will not challenge those to join whose available time is as precious as diamonds. If the theme for this year appears to have overtones of Pollyanna-ism, I will agree to this extent: I optimistically believe that there is good in this organization for every physician's wife as an avenue for her talents, her concerns and interests, her self-image and well-being.

Obviously I have not been rendered speechless by the honor which has been bestowed on me this day — and I do recognize it as an honor to be chosen out of so many outstanding women — but naturally I am overwhelmed by the magnitude of my responsibilities. There will be times when I ask myself (and others): How did I manage to get myself into this ridiculous situation? Those times will serve to keep me humble, and they certainly will be a constant reminder to me of how grateful I am for the consummate skills, the endurance, the dedication and the support of those who have preceded me. Ann Rollins has passed on a well-tuned machine with a high EPA rating, fueled as

much on laughter and the joy of shared experience as anything else. I shall miss her. What I bring to you as your president is knowledge born of the shared experience and many, many years in the "field." Occasionally it may pass as wisdom. Feel free to avail yourselves of it because we can't have a party if nobody comes.

MRS. HAMPTON (ANNE) HUBBARD
State Auxiliary President
Clinton, N.C.

News Notes from the—

BOWMAN GRAY SCHOOL OF MEDICINE WAKE FOREST UNIVERSITY

Dr. Kenneth A. Gruber, a Bowman Gray School of Medicine researcher who was instrumental last year in the discovery of a new hormone, has been given a Research Career Development Award.

The five-year award is from the National Heart, Lung and Blood Institute, and is one of the most highly regarded training funds available to academic medicine.

Gruber, a research associate professor of medicine (nephrology), will use the award to examine in much greater detail the structure and function of the newly discovered hormone, which has been named endoxin.

The award also will enable Gruber to take a sabbatical in 1982 to work with researchers at the Cardiovascular Institute of the University of Iowa, considered to be the foremost center for study of central nervous system control of the cardiovascular system.

Gruber's new award will permit him to further his work on deciphering the structure of endoxin. If it eventually is shown that endoxin is a cause of human essential hypertension, and if the structure of the hormone is known, then pharmaceutical companies may be able to develop drugs which block the hormone's harmful effects.

Gruber plans further study of the role of the brain in releasing endoxin, to study where in the body endoxin is made and to continue research on salt's role in promoting the production of endoxin.

Gruber joined the Bowman Gray faculty in 1976. He holds both the B.A. and Ph.D. degrees from New York University.

* * *

The Bowman Gray School of Medicine has been awarded a biomedical research support grant for \$150,820 by the Division of Research Resources of the National Institutes of Health.

While this is the 20th consecutive year that Bowman Gray has received such a grant, school officials view the most recent grant as especially important.

The grant provides considerable flexibility in the

CYCLAPEN®-W (cyclacillin)

Indications

Cyclacillin has less *in vitro* activity than other drugs in the ampicillin class and its use should be confined to these indications. Treatment of the following infections:

RESPIRATORY TRACT

Tonsillitis and pharyngitis caused by Group A beta-hemolytic streptococci
Bronchitis and pneumonia caused by *S. pneumoniae* (formerly *D. pneumoniae*)
Otitis media caused by *S. pneumoniae* (formerly *D. pneumoniae*) and *H. influenzae*
Acute exacerbation of chronic bronchitis caused by *H. influenzae**

*Though clinical improvement has been shown, bacteriologic cures cannot be expected in all patients with chronic respiratory disease due to *H. influenzae*.

SKIN AND SKIN STRUCTURES (integumentary) infections caused by Group A beta-hemolytic streptococci and staphylococci, non-penicillinase producers.

URINARY TRACT INFECTIONS caused by *E. coli* and *P. mirabilis*. (This drug should not be used in any *E. coli* and *P. mirabilis* infections other than urinary tract.)

NOTE: Perform cultures and susceptibility tests initially and during treatment to monitor effectiveness of therapy and susceptibility of bacteria. Therapy may be instituted prior to results of sensitivity testing.

Contraindications Contraindicated in individuals with history of an allergic reaction to penicillins.

Warnings Cyclacillin should only be prescribed for the indications listed herein.

Cyclacillin has less *in vitro* activity than other drugs of the ampicillin class. However, clinical trials demonstrated it is efficacious for recommended indications.

Serious and occasional fatal hypersensitivity (anaphylactoid) reactions have been reported in patients on penicillin. Although anaphylaxis is more frequent following parenteral use, it has occurred in patients on oral penicillins. These reactions are more apt to occur in individuals with history of sensitivity to multiple allergens. There are reports of patients with history of penicillin hypersensitivity reactions who experienced severe hypersensitivity reactions when treated with a cephalosporin. Before penicillin therapy, carefully inquire about previous hypersensitivity reactions to penicillins, cephalosporins and other allergens. If allergic reaction occurs, discontinue drug and initiate appropriate therapy. Serious anaphylactoid reactions require immediate emergency treatment with epinephrine, Oxygen, I.V. steroids, airway management, including intubation, should also be administered as indicated.

Precautions Prolonged use of antibiotics may promote overgrowth of nonsusceptible organisms. If superinfection occurs, take appropriate measures.

PREGNANCY Pregnancy Category B. Reproduction studies performed in mice and rats at doses up to 10 times the human dose revealed no evidence of impaired fertility or harm to the fetus due to cyclacillin. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, use this drug during pregnancy only if clearly needed.

NURSING MOTHERS. It is not known whether this drug is excreted in human milk. Because many drugs are, exercise caution when cyclacillin is given to a nursing woman.

Adverse Reactions Oral cyclacillin is generally well tolerated. As with other penicillins, untoward sensitivity reactions are likely, particularly in those who previously demonstrated penicillin hypersensitivity or with history of allergy, asthma, hay fever, or urticaria. Adverse reactions reported with cyclacillin: diarrhea (in approximately 1 out of 20 patients treated), nausea and vomiting (in approximately 1 in 50), and skin rash (in approximately 1 in 60). Isolated instances of headache, dizziness, abdominal pain, vaginitis, and urticaria have been reported. (See WARNINGS) Other less frequent adverse reactions which may occur and are reported with other penicillins are anemia, thrombocytopenia, thrombocytopenic purpura, leukopenia, neutropenia and eosinophilia. These reactions are usually reversible on discontinuation of therapy.

As with other semisynthetic penicillins, SGOT elevations have been reported.

As with antibiotic therapy generally, continue treatment of least 48 to 72 hours after patient becomes asymptomatic or until bacterial eradication is evidenced. In Group A beta-hemolytic streptococcal infections, at least 10 days' treatment is recommended to guard against risk of rheumatic fever or glomerulonephritis. In chronic urinary tract infection, frequent bacteriologic and clinical appraisal is necessary during therapy and possibly for several months after. Persistent infection may require treatment for several weeks.

Cyclacillin is not indicated in children under 2 months of age.

Patients with Renal Failure: Cyclacillin may be safely administered to patients with reduced renal function. Due to prolonged serum half-life, patients with various degrees of renal impairment may require change in dosage level (see DOSAGE AND ADMINISTRATION in package insert).

Dosage (Give in equally spaced doses)

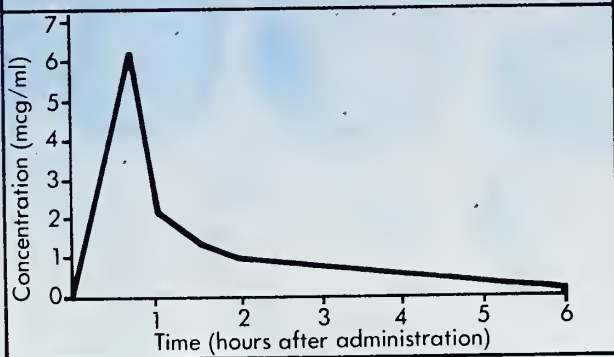
| INFECTION | ADULTS | CHILDREN* |
|-----------------------------|--------------------------|--|
| Respiratory Tract | | |
| Tonsillitis & Pharyngitis | 250 mg q.i.d. | body weight < 20 kg (44 lbs) 125 mg q.i.d. body weight > 20 kg (44 lbs) 250 mg q.i.d. |
| Bronchitis and Pneumonia | | |
| Mild or Moderate Infections | 250 mg q.i.d. | 50 mg/kg/day q.i.d. |
| Chronic Infections | 500 mg q.i.d. | 100 mg/kg/day q.i.d. |
| Otitis Media | 250 mg to 500 mg q.i.d.† | 50 to 100 mg/kg/day† |
| Skin & Skin Structures | 250 mg to 500 mg q.i.d.† | 50 to 100 mg/kg/day† |
| Urinary Tract | 500 mg q.i.d. | 100 mg/kg/day |

*Dosage should not result in a dose higher than that for adults. †depending on severity

**Half the dose
is absorbed in 9 minutes!**
compared to 32 minutes for ampicillin.*



Mean blood levels in mcg/ml after 250 mg cyclacillin single oral dose



- Rapid, virtually complete absorption from GI tract
- Exceptionally high peak blood levels – 3 times greater than ampicillin (Clinical efficacy may not always correlate with blood levels.)
- Rapidly excreted unchanged in urine – 1½ times faster than ampicillin

*Based on $T^{1/2}$ values for single oral doses of 500 mg cyclacillin tablet and 500 mg ampicillin capsule. Data on file, Wyeth Laboratories.

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Fewer episodes of diarrhea and rash than with ampicillin in studies to date.

Efficacy proven in the treatment of bronchitis, pneumonia, and upper respiratory infections.†

In 117 patients, 73 with bronchitis/pneumonia caused by *S. pneumoniae* and 44 with streptococcal sore throat caused by Group A beta-hemolytic streptococcus, CYCLAPEN®-W achieved a clinical response rate of 100%! Bacterial eradication was 95% and 86% respectively.

†Due to susceptible organisms.

See important information on facing page.

CYCLAPEN®-W
(cyclacillin) 250 and 500 mg Tablets
125 and 250 mg per 5 ml Suspension

more than just spectrum

**NEW
NAME**

support of research, which is particularly important in view of expected cutbacks in other federal grants available for biomedical research.

The purpose of such grants is to provide additional support for institutions with already established and productive research programs.

* * *

Five members of the Bowman Gray faculty have been promoted to the rank of full professor.

They are Dr. Robert L. Dixon, radiology (physics); Dr. Phillip M. Hutchins, physiology; Dr. William B. Lorentz Jr., pediatrics; Dr. Timothy C. Pennell, surgery; and Dr. Robert A. Turner Jr., medicine (rheumatology).

They were among 33 faculty members who received promotions effective July 1.

* * *

Five Bowman Gray faculty members have been presented Faculty Foreign Travel Awards to support their participation in international meetings this summer.

The recipients are Dr. Laurence A. Bradley, assistant professor of psychology; Dr. Kenneth A. Gruber, research assistant professor of medicine; Dr. Philip W. Landfield, assistant professor of physiology; Dr. Douglas S. Lyles, assistant professor of microbiology and immunology; and Dr. Jack W. Strandhoy, associate professor of pharmacology.

Bradley will speak at the Third World Congress on Pain in Edinburgh, Scotland. Gruber and Strandhoy will present scientific papers at the Eighth International Congress of Nephrology in Athens, Greece.

Landfield will participate in the International Congress of Gerontology in Hamburg, Germany.

Lyles will present a paper at the Fifth International Congress of Virology in Strasbourg, France.

* * *

Dr. Timothy C. Pennell, professor of surgery, was presented the Award for Teaching Excellence during Bowman Gray's annual awards ceremony. The award includes an engraved plaque and a monetary prize to be used toward the individual's further academic enrichment.

Candidates for the award are nominated by the medical students and selected by a committee composed of representatives of the medical school administration, academic faculty and student body.

The senior class also honored Dr. Pennell by dedicating the yearbook to him.

Basic Science Teaching Awards were presented to Dr. Walter J. Bo, professor of anatomy; and Dr. Robert W. Prichard, professor and chairman of the Department of Pathology.

Dr. Barry Hackshaw, assistant professor of medicine (cardiology), and Dr. Richard B. Urban, assistant professor of obstetrics and gynecology, received citations for excellence in clinical teaching.

John C. Sowers was presented the Faculty Award,

the highest award that can be bestowed on a medical student by the Bowman Gray faculty. The award, which includes an engraved plaque, is presented annually to a graduating medical student who has demonstrated outstanding scholarship and character during four years of medical school.

House Officer Teaching Awards were presented to Drs. Julia M. Cruz and Daniel M. Camden, residents in medicine.

* * *

Dr. Julia Cruz, resident in medicine, has received the 1981 Osler Award, presented each year by the Department of Medicine to a resident in that department who best exemplifies "The ideal of patient care and scholarship" set by Dr. William Osler.

* * *

Two new members of the Bowman Gray School of Medicine faculty have been appointed.

They are Dr. Ernest H. Kawamoto, assistant professor of pathology; and Dr. Roger A. Horton, instructor in dentistry.

Kawamoto holds the M.D. degree from the University of Colorado School of Medicine and completed residency training in anatomic and clinical pathology at the University of Colorado Medical Center. He took a fellowship in surgical pathology and cytology at the Medical College of Virginia.

Horton is a graduate of the University of Pittsburgh School of Dental Medicine, where he received the D.M.D. degree. He completed a residency in general practice dentistry at the University of Colorado Health Sciences Center School of Dentistry and completed a clinical fellowship in the Department of Dentistry at Bowman Gray.

* * *

Dr. Henry Drexler, professor of microbiology, has been elected president of the North Carolina Branch of the American Society for Microbiology.

* * *

Dr. Clara M. Heise, assistant professor of radiology (biochemistry) has been re-elected as a member-at-large to the Executive Committee of the Clinical Radioassay Society for 1981-82.

* * *

Dr. Eugene R. Heise, associate professor of microbiology, has been elected to a three-year term as councillor-at-large for the American Association for Clinical Histocompatibility Testing. He also is chairman of the Publications Committee.

* * *

Dr. Julian F. Keith, professor and chairman of the Department of Family and Community Medicine, has been appointed to the United States Pharmacopeia Advisory Panel on Family Practice. He also has been elected president of the Board of Directors of the Child Guidance Clinic of Forsyth County, Inc.

Dr. Laurence B. Leinbach, professor of radiology, was elected president of the Eastern Radiological Society during the organization's annual meeting.

* * *

Dr. Richard C. Proctor, professor and chairman of the Department of Psychiatry and Behavioral Medicine, has been reappointed chairman of the Ethics Committee of the North Carolina Branch of the American Psychiatric Association.

* * *

Dr. John R. Ureda, instructor in community medicine, has been re-elected chairman of the Forsyth County Health Education Council for 1981-82.

News Notes from the—

DUKE UNIVERSITY MEDICAL CENTER

Two scientists at the medical center, Dr. Irwin Fridovich and Dr. Wolfgang K. Joklik, were named to

the National Academy of Sciences, generally acclaimed as the nation's most prestigious society for scientists of all disciplines.

Fridovich is James B. Duke Professor of Biochemistry. He and his laboratory colleagues discovered sulfite oxidase, the enzyme which protects the body from the catastrophic effects of sulfite. He and his colleagues also discovered superoxide dismutase, another family of enzymes that protect cells from the toxic effects of oxygen, such as damage to membranes and DNA.

Joklik is James B. Duke Professor of Microbiology and Immunology and chairman of the department. He is also director of basic research for the Duke Comprehensive Cancer Center. Joklik's research interests have included smallpox virus, RNA tumor viruses and interferon, which he has studied for 16 years.

* * *

Duke physicians have begun tapering a group of epileptics off their medication to determine how long epileptics need to stay on medication once seizures are under control. The projected 200 to 500 partici-

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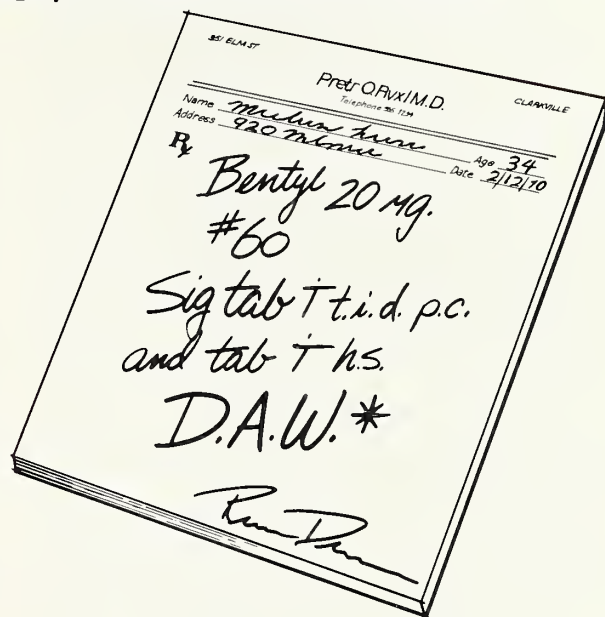


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- ⊕ Bentyl helps control abnormal gastrointestinal motor activity with minimal anticholinergic side effects. (See Warnings, Contraindications, Precautions, and Adverse Reactions on next page.)
- ⊕ The bioequivalence of the oral dosage forms permits a choice of tablet, capsules, or syrup that satisfies patient's dosage preferences.
- ⊕ Significant pharmacologic effect in the distal colon compared to placebo,¹ shows how Bentyl controls abnormal motor activity in the irritable colon patient.*

*This drug has been classified "probably" effective for this indication.

Merrell Dow

Reference:

1. Chowdhury AR and Lorber SH: Personal communication, 1980.

(See Product Information on the next page before prescribing Bentyl.)

Although the dose of Bentyl used to show pharmacologic effect was 50 mg, which is a higher single dose than that permitted in the labeling, the dose was considered justified, since the recommended daily dose of injectable Bentyl is 20 mg (2 ml) every 4 to 6 hours. Thus, in 8 hours, a patient could receive a total of 60 mg I.M. and, at that time, as a result of the sustained plasma levels from the 20 mg injections at 0 and 4 hours, might show an even higher plasma level than occurs after a single 50 mg dose. Presumably, the same pharmacologic effect would follow. These observations do not constitute evidence of efficacy.

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AVAILABLE ONLY ON PRESCRIPTION
Brief Summary

INDICATIONS

Based on a review of this drug by the National Academy of Sciences-National Research Council and/or other information, FOA has classified the following indications as "probably" effective:

For the treatment of functional bowel/irritable bowel syndrome (irritable colon, spastic colon, mucous colitis) and acute enterocolitis

THESE FUNCTIONAL DISORDERS ARE OFTEN RELIEVED BY VARYING COMBINATIONS OF SEDATIVE, REASSURANCE, PHYSICIAN INTEREST, AMELIORATION OF ENVIRONMENTAL FACTORS

For use in the treatment of infant colic (syrup).

Final classification of the less-than-effective indications requires further investigation.

CONTRAINDICATIONS: Obstructive uropathy (for example, bladder neck obstruction due to prostatic hypertrophy), obstructive disease of the gastrointestinal tract (as in achalasia, pyloroduodenal stenosis), paralytic ileus, intestinal atony of the elderly or debilitated patient; unstable cardiovascular status in acute hemorrhage; severe ulcerative colitis; toxic megacolon complicating ulcerative colitis; myasthenia gravis.

WARNINGS: In the presence of a high environmental temperature, heat prostration can occur with drug use (fever and heat stroke due to decreased sweating). Diarrhea may be an early symptom of incomplete intestinal obstruction, especially in patients with ileostomy or colostomy. In this instance treatment with this drug would be inappropriate and possibly harmful. Bentyl may produce drowsiness or blurred vision. In this event, the patient should be warned not to engage in activities requiring mental alertness such as operating a motor vehicle or other machinery or perform hazardous work while taking this drug. There are rare reports of infants, 6 weeks of age and under, administered dicyclomine hydrochloride syrup, who have evidenced respiratory symptoms (breathing difficulty, shortness of breath, breathlessness, respiratory collapse, apnea), as well as seizures, syncope, asphyxia, pulse rate fluctuations, muscular hypotonia, and coma. The above symptoms have occurred within minutes of ingestion and lasted 20 to 30 minutes. The timing and nature of the reactions suggest that they were a consequence of local irritation and/or aspiration rather than a direct pharmacologic effect. No known deaths or permanent adverse effects have been reported. Bentyl syrup should be used with caution in this age group.

PRECAUTIONS: Although studies have failed to demonstrate adverse effects of dicyclomine hydrochloride in glaucoma or in patients with prostatic hypertrophy, it should be prescribed with caution in patients known to have or suspected of having glaucoma or prostatic hypertrophy.

Use with caution in patients with:

Autonomic neuropathy. Hepatic or renal disease. Ulcerative colitis. Large doses may suppress intestinal motility to the point of producing a paralytic ileus and the use of this drug may precipitate or aggravate the serious complication of toxic megacolon.

Hyperthyroidism, coronary heart disease, congestive heart failure, cardiac arrhythmias, and hypertension.

Hiatal hernia associated with reflux esophagitis since anticholinergic drugs may aggravate this condition.

Do not rely on the use of the drug in the presence of complication of biliary tract disease. Investigate any tachycardia before giving anticholinergic (atropine-like) drugs since they may increase the heart rate. With overdosage, a curare-like action may occur.

ADVERSE REACTIONS: Anticholinergics/antispasmodics produce certain effects which may be physiologic or toxic depending upon the individual patient's response. The physician must delineate these. Adverse reactions may include xerostomia; urinary hesitancy and retention; blurred vision and tachycardia; palpitations; mydriasis; cycloplegia, increased ocular tension; loss of taste; headache; nervousness; drowsiness; weakness; dizziness; insomnia; nausea; vomiting; impotence; suppression of lactation; constipation; bloated feeling; severe allergic reaction or drug idiosyncrasies including anaphylaxis; urticaria and other dermal manifestations; some degree of mental confusion and/or excitement, especially in elderly persons; and decreased sweating. With the injectable form there may be a temporary sensation of light-headedness and occasionally local irritation.

DOSSAGE AND ADMINISTRATION: Dosage must be adjusted to individual patient's needs.

Usual Dosage

Bentyl 10 mg. capsule and syrup. *Adults:* 1 or 2 capsules or teaspoonfuls syrup three or four times daily. *Children:* 1 capsule or teaspoonful syrup three or four times daily. *Infants:* ½ teaspoonful syrup three or four times daily. (Dilute with equal volume of water.)

Bentyl 20 mg. *Adults:* 1 tablet three or four times daily.

Bentyl Injection: *Adults:* 2 ml. (20 mg.) every four to six hours intramuscularly only.

NOT FOR INTRAVENOUS USE

MANAGEMENT OF OVERDOSE: The signs and symptoms of overdose are headache, nausea, vomiting, blurred vision, dilated pupils, hot, dry skin, dizziness, dryness of the mouth, difficulty in swallowing, CNS stimulation. Treatment should consist of gastric lavage, emetics, and activated charcoal. Barbiturates may be used either orally or intramuscularly for sedation but they should not be used if Bentyl with Phenobarbital has been ingested. If indicated, parenteral cholinergic agents such as Urecholine® (bethanechol chloride USP) should be used.

Product Information as of July, 1980

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pants in the study will come from Duke's Clinical Research Seizure Clinic and a similar clinic at North Carolina Memorial Hospital.

Thus far, approximately 30 adolescent epileptics seen at the Duke clinic have completed a six-week drug-tapering program. Dr. Stanley J. Rothman, an associate professor of pediatrics and chief of Duke's pediatric neurology division, is directing the study.

* * *

Dr. Robert J. Ruderman, assistant professor of orthopaedic surgery and pediatrics, was one of six orthopaedic surgeons chosen to receive a fellowship from the American, British and Canadian Exchange.

The fellowship sponsored six weeks of study in Great Britain. He visited British medical centers and hospitals March 21-May 3.

* * *

Dr. Nicholas Georgiade, professor and chief of the division of plastic, maxillofacial and oral surgery, was one of 10 international speakers invited to meet with Egyptian plastic surgeons in Cairo in May.

The conference was part of the International Esthetic Society meeting.

* * *

Dr. James L. Ringo, a research associate in ophthalmology, received a Fulbright Fellowship from the Mutual Educational Exchange Program. Ringo will study at the University of Amsterdam from January through June, 1982.

He received the Fulbright for study of "Simultaneous Measurer of the Contrast Sensitivity Functions of Single Visual Neurons and the Whole Animal in Awake Monkeys."

* * *

Captain William H. Briner, director of the medical center's radiopharmacy and nuclear laboratory, received a special citation from the Food and Drug Administration (FDA).

Briner, a retired captain in the United States Public Health Service received the citation May 22 in Washington, D.C.

The award cited Briner's "outstanding contributions to the FDA as a member and consultant to the agency's radiopharmaceutical drugs advisory committee."

* * *

GRANTS AND CONTRACTS

Robert Machemer, professor and chairman of the Department of Ophthalmology, was awarded a \$103,692 grant from the National Eye Institute. Machemer's study is "Vitrectomy Through the Pars Plana."

Peter Cresswell, associate professor of immunology, received a \$62,000 grant from the National Institute of Allergy and Infectious Disease for "Molecular Studies of the Mixed Lymphocyte Response."

Walter R. Guild, professor in the Department of Biochemistry, received a \$44,480 grant from the National Institute of General Medical Sciences. He is studying "Pneumococcal Phage as Genetic Tools."

Robert L. Hill, professor and chairman of the Department of Biochemistry, was awarded a \$408,673 research service award from the National Institute of General Medical Sciences.

William L. Holman, in the Department of Surgery, received a \$16,468 award from the National Heart, Lung and Blood Institute to study arrhythmias.

Stephen F. Vogel, professor of pathology, received a \$12,781 grant from the National Institute on Aging for the study of "Biological Approaches to Dementia."

Erwin Fridovich, professor of biochemistry, received a \$100,947 grant from the National Institute of General Medical Sciences, for the study of "The Biology of Superoxide Radical and of the Superoxide."

Arno L. Greenleaf, assistant professor of biochemistry, received an \$83,570 grant from the National Institute of General Medical Sciences for the study of "Biochemical Genetics of *Drosophila* RNA Polymerase II."

Edward W. Holmes Jr., associate professor in the division of rheumatic and genetic disease, was awarded an \$84,971 grant from the National Institute of Arthritis, Metabolism and Digestive Diseases. Holmes is studying "Purine Metabolism in Gout."

David C. Sabiston Jr., James B. Duke Professor of Surgery and chairman of the department, received a \$163,792 grant from the National Heart, Lung and Blood Institute for the study of "Coronary Insufficiency and Myocardial Revascularization."

Avis L. Sylvia, assistant medical research professor of physiology, was awarded a \$77,197 grant from the National Institute on Aging. The grant will support study of "Brain Function and Oxidative Metabolism During Aging."

William Hylander, associate professor of anthropology and anatomy, received a \$56,387 grant from the National Institute on Dental Research for "Strain in the Facial Bones of *Macaca Fascicularis*."

John M. Corless, associate professor of anatomy and associate in ophthalmology, received a \$91,307 grant from the National Eye Institute. Corless will use the grant to support research in "Retinal Rod Photoreceptor Membrane Structure/Function."

Doyle G. Graham, clinical associate professor of pathology, received a \$78,488 grant from the National Institute of Environmental Health Sciences for the study of "Environmental Toxin-Induced Neurofilament Neuropathy."

George L. Maddox, director of the Center for the Study of Aging and Human Development, received a \$106,231 grant from the National Institute on Aging for the study of "Behavior and Physiology in Aging."

Wolfgang K. Joklik, chairman and professor of the Department of Microbiology and Immunology, received a \$42,561 research grant from the National

Cancer Institute. Joklik is studying "Virus- and Cell-Inhibitory Activity of Interferon."

William S. Lynn Jr., professor in the division of pulmonary medicine, was awarded a \$70,790 grant from the National Heart, Lung and Blood Institute for the study of "Structure, Source and Functions of Alveolar Glycoprotein."

Thomas C. Vanaman, professor in the division of microbiology, was awarded a \$101,021 grant from the National Institute of Neurological and Communicative Disorders and Stroke for the study of "Brain Specific Proteins in Nerve Function."

S. Clifford Schold Jr., in the Division of Neurology, was awarded a \$30,910 grant from the National Institute of Neurological and Communicative Disorders and Stroke for "Growth and Treatment of Human Gliomas in Athymics."

Ronald B. Corley, assistant professor in the division of immunology, received a \$64,268 grant from the National Institute of Allergy and Infectious Diseases for "Helper T Cells: Comparison of T-T and T-B Interaction."

David C. Richardson, associate professor in the Department of Biochemistry, received a \$109,739 grant from the National Institute of General Medical Sciences for the Study of "Crystallographic Analysis of Protein Structures."

Sheldon R. Pinnell, professor in the Division of Dermatology, was awarded an \$89,597 grant from the National Institute of Arthritis, Metabolic and Digestive Diseases for the study of "Collagen Biosynthesis in Human Skin Fibroblasts."

John W. Gutknecht, associate professor of physiology, received a \$32,385 grant from the National Institute of General Medical Sciences for study of "Acid/Base Transport Through Lipid Bilayer Membranes."

John C. Cambier, assistant professor of immunology, received a \$34,286 grant from the National Institute of Allergy and Infectious Diseases to study "The Molecular Biology of B Cell Tolerance."

Richard S. Metzgar, professor in the division of immunology, received an \$82,792 grant from the National Institute of Arthritis, Metabolic and Digestive Disease for "Immunological Studies of Primate Membrane Antigens."

Tai-Shih Hsieh, in the Department of Biochemistry, received a \$115,513 research grant from the National Institute of General Medical Sciences to study "DNA Topoisomerase: Function and Mechanism."

Richard O. Burns, professor in the division of microbiology, was awarded a \$56,137 grant from the National Institute of General Medical Sciences for the study of "Molecular Mechanisms of Biological Control."

Robert D. Nebes, associate medical research professor, received a \$39,862 grant from the National Institute on Aging for "Age and Selective Attention in Visual Search."

Eugene D. Day, professor in the division of microbiology, received a \$63,844 grant from the National Institute of Neurological and Communicative Disor-

ders and Stroke for "Studies of Glial Cell Membranes and Myelin."

George W. Brumley, professor in the Department of Pediatrics, received a \$37,836 grant from the National Heart, Lung and Blood Institute for "Pulmonary Surfactant-Factors Influencing Production."

Robert H. Jones, professor in the division of general and thoracic surgery, was awarded a \$36,894 grant from the National Heart, Lung and Blood Institute for "Radionuclide Studies in Congenital Heart Disease."

Theodore A. Slotkin, professor in the Department of Pharmacology, received a \$61,388 grant from the National Institute of Child Health and Human Development of Adrenergic Nervous System."

Per-Otto F. Hagen, associate medical research professor in the division of general and thoracic surgery, received a \$141,223 grant from the National Heart, Lung and Blood Institute for "Surgical and Medical Aspects of Venous Grafts."

Redford B. Williams Jr., professor in the division of psychosomatic medicine, received a \$71,081 grant from the National Heart, Lung and Blood Institute for the study of "Psychosocial Factors and Outcome in Coronary Disease."

Allen D. Roses, professor of neurology and assistant professor of biochemistry, received an \$89,456

grant from the National Institute of Neurological and Communicative Disorders and Stroke for the study of "Biochemical Studies of Membrane Proteins in Duchenne Muscular Dystrophy."

"Roses also received a \$25,000 grant from the Muscular Dystrophy Association for "Circulating Factors in the Pathogenesis of Myasthenia Gravis."

* * *

Erdman B. Palmore, professor of community and social psychiatry and sociology, received a \$72,500 grant from the National Institute of Mental Health to study "Mental Illness and Social Support Among the Very Old."

Theodore A. Slotkin, professor of pharmacology, received a \$58,496 grant from the National Institute on Drug Abuse for the study of "Effects of Opiates of the Adrenergic System."

Charles B. Hammond, professor and chairman of the Department of Obstetrics and Gynecology, received a \$69,721 grant from the National Cancer Institute for support of the Regional Trophoblastic Disease Center.

David W. Schomberg, associate professor of obstetrics and gynecology and physiology, received a \$94,363 grant from the National Institute of Child

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Health and Human Development for the study of "Human Infertility: Intraovarian Cellular Mechanisms."

Amos Ottolenghi, professor of pharmacology, received a \$71,845 grant from the National Institute of General Medical Sciences for pharmacological sciences.

Wendell F. Rosse, chief of hematology and oncology and professor of microbiology and immunology, received a \$101,328 grant from the National Heart, Lung and Blood Institute for the study of "Blood Banking Sciences and Related Areas." Rosse also received a \$79,245 grant from the National Cancer Institute for the study of "Immunological Lysis in Neoplastic Disease."

Andrew G. Wallace, professor of cardiology and associate vice president for health affairs, received a \$258,540 grant from the National Heart, Lung and Blood Institute for the study of "Multidisciplinary Heart and Vascular Diseases."

News Notes from the

UNIVERSITY OF NORTH CAROLINA- CHAPEL HILL SCHOOL OF MEDICINE AND NORTH CAROLINA MEMORIAL HOSPITAL

The Clinical Research Unit of the School of Medicine has received a five-year renewal of its operating grant from the National Institutes of Health.

The CRU, located at North Carolina Memorial Hospital, is part of a network of federally-supported centers for clinical investigation. It is a highly specialized unit in which physicians care for patients and study their diseases under carefully controlled conditions. Their research is aimed at discovering the causes of complicated disorders and developing better ways to treat them.

The research advisory council of the National Institutes of Health has recommended that NIH funding for CRU increase from \$966,000 in 1982 to \$1.3 million by 1986.

The CRU currently has about 70 active research projects.

The unit which includes 14 patient beds, last year recorded 855 admissions. The number of outpatient visits increased from 334 two years ago to 526 last year.

CRU director Dr. Robert D. Utiger said those numbers reflect an increasing interest among faculty physicians in clinical research.

"We have had more research proposals submitted and approved in the last couple of years than ever before," Utiger said. "I hope we will continue to have a high rate of utilization, because an active research program not only advances medical science but helps

an institution attract and keep quality faculty members."

* * *

The pharmacy residency program at North Carolina Memorial Hospital recently received notice of the continuation of a six-year accreditation by the American Society of Hospital Pharmacists.

The notice was issued by the ASHP Commission on Credentialing following review of a pharmacy residency progress report submitted by the hospital in February 1981. The six-year accreditation is the maximum that can be issued by the ASHP.

The residency program at N.C. Memorial is one of about 170 accredited programs in the United States and one of two associated with the masters of pharmacy practice degree at the University of North Carolina at Chapel Hill. The School of Pharmacy also has a residency program which focuses on pharmacy practice at a variety of sites.

* * *

Dr. Stuart Bondurant, dean of the School of Medicine, is one of nine physicians honored recently with mastership in the American College of Physicians (ACP).

As a master of the ACP, Bondurant joins an elite group of his medical colleagues. Of the 51,000 members of the organization, only 159 hold the rank of master. With this honor, Bondurant follows in the footsteps of a predecessor as dean of the medical school. The late Dr. W. Reece Berryhill, who was dean from 1941-64, was named a master of the ACP in 1977.

"This is an outstanding professional honor which Dr. Bondurant, has received," said University Chancellor Christopher C. Fordham III. "Traditionally, mastership is reserved for physicians who, like Dr. Bondurant have consistently upheld the highest standards of clinical performance and medical scholarship and have contributed other outstanding achievements to medical science.

"By joining this prestigious group, Dean Bondurant brings honor not only to himself, but also to the School of Medicine and the University."

Bondurant, immediate past president of the ACP, was cited for his accomplishments as a teacher, clinician and researcher.

He served on the faculty of Indiana University School of Medicine from 1959-67 and Albany Medical College from 1967-79. He received several teaching awards, including Albany Medical College's Harold C. Wiggers Commencement Award. While Bondurant was chairman of Albany's Department of Medicine, from 1967-74, the number of resident physician positions in that department increased from 12 to 70. He was named dean and president of Albany Medical College in 1974.

His contributions at Albany also included eight years as physician-in-chief of the Albany Medical Center Hospital.

As a researcher in diseases of the heart and lungs, Bondurant served as associate director of the Indiana University Cardiovascular Research Center from 1961-67. Near the end of his tenure, he took a leave of absence to establish the first program of research on myocardial infarction at the National Institutes of Health.

Bondurant's research on the effects of high speed acceleration on the heart and lungs contributed significantly to this nation's participation in the space age. He received the Air Force Award for Meritorious Civilian Service for this work.

A native of North Carolina and a Phi Beta Kappa student at UNC-CH, Bondurant received his medical degree from Duke University School of Medicine. He returned to Chapel Hill as dean of medicine in 1979.

The American College of Physicians, founded in 1915, works to upgrade the quality of medical education, practice and research through rigorous membership requirements and continuing medical education programs for physicians.

* * *

Many of the physicians who have been influenced by Dr. Floyd W. Denny's 20 years as chairman of pediatrics in the School of Medicine recently paid tribute to him.

The first annual Floyd W. Denny Lecture was given during the May 22-23 meeting of pediatric alumni and friends of the department. This group, formerly known as the UNC Pediatric Alumni Society, has been renamed the Floyd W. Denny Pediatric Society.

"Because Dr. Denny's leadership has had such a profound effect on pediatrics across the state and nation, we felt it was appropriate to rename this organization the Denny Pediatric Society and to raise funds to endow a continuing lectureship in his honor," said Dr. Gerald W. Fernald, professor of pediatrics and secretary/treasurer of the Denny Society.

The first Denny lecture was given by Dr. Charles H. Rammelkamp, professor of medicine emeritus, Case Western Reserve University School of Medicine.

Denny stepped aside as chairman in May and is continuing as Alumni Distinguished Professor of pediatrics to pursue his interests in teaching and research in the division of pediatric infectious diseases. Fernald is serving as acting chairman of the department.

* * *

The contributors of five endowed professorships were honored April 30 by the School of Medicine.

Dr. M. D. "Rabbit" Bonner of Greensboro, J. P. Riddle of Fayetteville, Dr. and Mrs. Sterling A. Barrett of Waterloo, Iowa, and Dr. James A. Valone of Raleigh were cited for their support of the School of Medicine during the spring banquet of the Co-Founders Club, a donor organization. Dr. H. Houston Merritt, former professor of neurology at Columbia University, was honored posthumously.

Earlier in the day, those holding the professorships spoke during the organization's spring meeting. They were: Dr. Thomas P. Barnett, Bonner distinguished professor of pulmonary and allied diseases; Dr. W. Paul Biggers, J. P. Riddle distinguished professor of otolaryngology; Dr. David E. Eifrig, the Dr. and Mrs. Sterling A. Barrett distinguished professor of ophthalmology; Dr. James N. Hayward, the Dr. H. Houston Merritt distinguished professor of neurology; and Dr. Bradford Cannon, the Dr. James A. Valone distinguished professor in plastic and reconstructive surgery.

The day's activities also included the dedication of the H. Houston Merritt Electron Microscopy Laboratory in the UNC-CH Department of Neurology.

Members of the Co-Founders Club each contribute at least \$1,000 a year to the UNC-CH School of Medicine. The club meets in Chapel Hill each spring and fall.

* * *

A physician from North Carolina and another from Great Britain will get a firsthand look at each other's practice this summer. They will participate in an exchange program sponsored by the Wyeth Laboratories.

The Area Health Education Centers (AHEC) program of the University of North Carolina at Chapel Hill School of Medicine has received a 1981 Wyeth Travel Fellowship that will fund a portion of the physician's travel and expenses.

Dr. Eugene S. Mayer, AHEC director, said it will enable Dr. Peter Ungaro of Wilmington to spend two

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weeks in the United Kingdom studying the health care delivery system there. Ungaro has a faculty appointment in the School of Medicine through the Wilmington area AHEC.

The British physician who serves as his host will visit North Carolina later in the summer, spending one week on campus and one week in the Wilmington AHEC region.

Mayer pointed out that this is the sixth year North Carolina's AHEC program has received a Wyeth Traveling Fellowship.

Wyeth Laboratories, a division of American Home Products Corp., is a pharmaceutical manufacturer with facilities in both the United States and the United Kingdom.

* * *

Scientists at the University of North Carolina at Chapel Hill have developed a group of compounds that appear to be effective in controlling respiratory syncytial virus — the leading cause of respiratory infections among American children.

It's not known yet if the synthetic compounds, called amidines, will work as well in humans as they do in the test tube, but preliminary studies in animals are encouraging, the scientists said.

If the amidines make it through years of further animal testing and clinical trials, they could eventually become a significant new anti-virus tool for physicians. A patent on three of the compounds is expected to be granted later this year.

Although respiratory syncytial virus (RSV) can affect persons of any age, causing symptoms that range from runny noses to bronchiolitis and pneumonia, it is particularly dangerous for children under age 2 and the elderly. Dr. Richard R. Tidwell, assistant professor of pathology at the UNC-CH School of Medicine, said that in some cases, the inflammation it produces in the lungs becomes severe enough to require hospitalization and breathing devices.

He said he and his colleagues, Drs. Edward J. Dubovi, assistant professor of pediatrics, and Joachim D. Geratz, professor of pathology, have been using certain amidines to interfere with functions of the virus. They can't simply kill the infectious agents because drugs strong enough to do that are invariably harmful to the cells they are supposed to protect.

Reports on the UNC-CH scientists' research, which is supported by the National Institutes of Health, appeared in the April issue of the journal *Antimicrobial Agents and Chemotherapy* and the June 1980 issue of *Virology*.

* * *

Dr. Edward J. Shahady has been reappointed chairman of the Family Medicine Department. The five-year appointment was effective Jan. 1.

Before joining the faculty in 1976, Shahady was director of the family practice resident program at Akron, Ohio, City Hospital and chairman of the De-

partment of Family Practice at Northeastern Ohio University's College of Medicine.

The Fairmont, W.Va. native received the Thomas W. Johnson Award for outstanding contributions to family practice education in 1979. Shahady is president of the Society of Teachers of Family Medicine. He is a charter fellow of the American Academy of Family Physicians and a charter diplomate of the American Board of Family Medicine.

A graduate of Wheeling College in West Virginia, he earned his M.D. degree from West Virginia University in 1964.

* * *

Dr. Frank C. Wilson Jr., professor and chief, division of orthopedic surgery, was appointed to the Residency Review Committee for Orthopaedics.

* * *

Dr. Jeffery J. Andresen, associate professor of psychiatry, spoke on psychoanalysis in psychiatric education at the Michael Reese Hospital and Medical Center conference in March 6-7 in Chicago.

* * *

Maryls Mitchell, associate professor and director of occupational therapy, participated in the American Occupational Therapy Association annual conference

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by chairing a session and a committee, serving as academic representative to the education commission and participating in executive board meetings March 3-13 in San Antonio, Texas.

* * *

Dr. Robert A. Briggaman, professor of dermatology, and Dr. W. Ray Gammon, assistant professor of dermatology, lectured at the 1981 Internal Medicine Program. Briggaman spoke on "Drug Induced Diseases" and Gammon spoke on "Vasculitis" March 11 in Chapel Hill.

* * *

Dr. Edward J. Shahady, chairman of family medicine, was guest faculty member at the Caribbean Conference on Diagnostic Medicine held in San Juan, Puerto Rico. He delivered papers on "Routine Prenatal Care" and "Pediatric Care" on March 14 and 15.

* * *

Michael R. McGinnis, assistant professor of bacteriology and immunology, wrote a book titled "Laboratory Handbook of Medical Mycology" published by Academic Press of New York.

* * *

James Lea, associate professor and director of the Program for International Training in Health, and Rosalia Rodriguez, training director, participated in the INTRAH Communications Workshop Feb. 9 in Rabat, Morocco.

* * *

Richard V. Wolfenden, professor of biochemistry, presented a lecture and participated in the organization of the 26th OHOLO Biological Conference on synthetic enzymes and transition state analogs March 22-25 in Zichron Yaakov, Israel.

* * *

Six faculty members from the School of Medicine have been promoted to associate professor effective July 1. They include: Roy C. Orlando, John F. Rogers, James R. Foster, Department of Medicine; Paul F. Jaques, Department of Radiology; Timothy N. Taft, Department of Surgery; and James D. Thullen, Department of Pediatrics.

* * *

Dr. Walter B. Greene, assistant professor of surgery, presented a paper titled "A Comparative Study of Bilateral Versus Unilateral Congenital Dislocation of the Hip" to the annual meeting of the American Academy of Orthopaedic Surgeons, Feb. 28 in Las Vegas, Nev. He also presented a poster exhibit by the same title at the meeting.

* * *

Ronald G. Thurman, associate professor of pharmacology, presented two papers as the Smith, Kline

and French visiting professor of pharmacology March 9-10 at the University of Pittsburgh.

* * *

Joan C. Rogers, assistant professor of allied health professions, was named a fellow of the American Occupational Therapy Association March 10 in San Antonio, Texas.

* * *

Dr. Edward V. Stabb, professor and associate chairman of radiology, was visiting professor of the Department of Radiology at the University of South Carolina, Columbia, S.C., March 9-13.

* * *

Dr. Herbert J. Proctor, associate professor surgery, participated in a meeting of the Mississippi Surgical Forum VIII postgraduate course, "Update on Management of Fluid, Electrolyte and Acid Base Problems in Surgery," March 13 in Jackson, Miss. He also moderated another session titled "Shock."

Proctor spoke on "Vascular Trauma" at the annual refresher course of the American Society of Abdominal Surgeons, March 22, at the Study Center in Tampa.

* * *

Dr. James R. Dingfelder, associate professor of obstetrics and gynecology, and Dr. Gary S. Berger, assistant professor of obstetrics and gynecology, presented papers at the 11th annual conference of the Nurses Association of the American College of Obstetricians and Gynecologists on March 14 in Raleigh.

* * *

Dr. Colin D. Hall, associate professor of neurology, and Dr. James F. Howard, assistant professor of neurology, were co-chairmen of the Symposium of the Eastern Regional Clinic Directors of the Muscular Dystrophy Association on March 14-15 in Chapel Hill. Dr. Walter B. Greene, assistant professor of surgery participated as a speaker.

* * *

Dr. Arthur J. Prange Jr., professor of psychiatry, conducted grand rounds at Albert Einstein Medical College, The Beth Israel Medical Center, and St. Luke's-Roosevelt Medical Center March 16-18. Prange lectured on the Therapeutic Aspect of Psychoendocrinology.

* * *

Dr. Steven Pierson, surgery resident, Denise Pierson, nursing, and Dr. George Johnson Jr., professor and chairman of surgery, co-authored a paper titled "Elastic Compression for Control of Leg Swelling." The paper was presented at the third European-American Symposium on Venous Diseases, March 19-24 in Acapulco. Prior to the symposium, Johnson served on the Scientific Program Committee and

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Precautions:

If irritation develops, the product should be discontinued and appropriate therapy initiated. In the presence of an infection resistant to treatment with antifungal or antibacterial agents, discontinue the use of the product until the infection has been controlled.

Pregnancy Category C—Hydrocortisone has been shown to be teratogenic in mice, rats, rabbits and hamsters when given in doses therapeutically equivalent to dosages used clinically in man. Those studies did not, however, evaluate the effect of topically applied drug.

There are no adequate and well controlled studies in pregnant women. Hydrocortisone should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus. Infants born of mothers who have received substantial doses of corticosteroids during pregnancy should be carefully observed for signs of hypoadrenalism.

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HEMTrex Hemorrhoidal Medicated Cleansing Foam is available in 1.4 oz (40 gm) and 3 oz (85 gm) canisters.

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coordinated the session on Operative Management of Portal Hypertension.

Johnson was a visiting professor at the University of Texas Health Science Center. He presented a talk titled "Review of Management of Portal Hypertension and Bleeding Esophageal Varices" March 29-30 in San Antonio.

* * *

Kenneth C. Mills, associate professor, center for alcohol studies, gave a training workshop on college

alcohol programs on March 26 at the Johns Hopkins Third Annual Conference in Baltimore, Md.

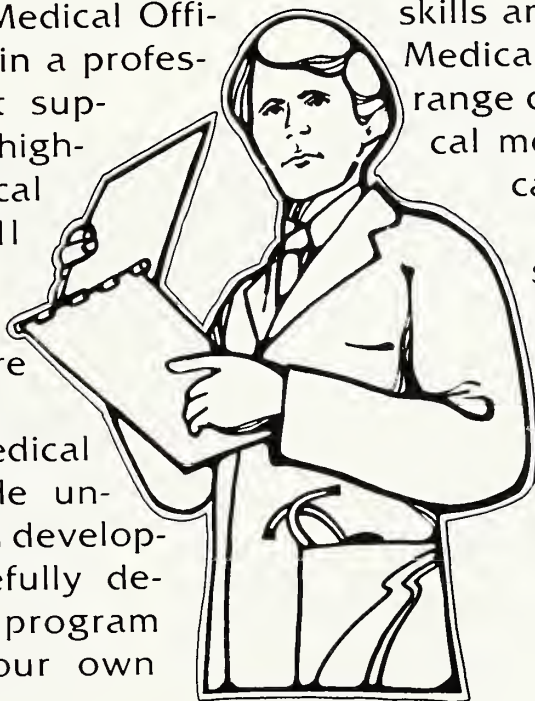
* * *

William G. Thomas, associate professor of surgery, was awarded honors by the North Carolina Speech-Hearing-Language Association in appreciation of his contributions in audiology at the NCSHLA annual meeting March 26-28 in Asheville. He lectured on "Use of Auditory Brain-stem Response in Threshold Determination."

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Dr. Philip Sloane and Dr. Peter Curtis, assistant professors of family medicine, and Bron Skinner, educational specialist, family medicine, presented a paper at the North American Primary Care Research Group Conference held in March at Lake Tahoe, Nev.

* * *

Dr. Janet J. Fischer, professor of medicine, presented a scientific paper titled "Microbiological Studies of Cotton — A Review" at the American Chemical Society meeting in Atlanta, March 29-April 3.

* * *

Dr. Robert A. Briggaman, professor of dermatology, attended the annual workshop on Disease Mechanisms in Epidermolysis Bullosa, April 2-3, in Bethesda, Md. He presided over one of the program sections and gave a lecture on "Anchoring Fibrils — Recombinant Graft Studies."

* * *

Dr. W. Ray Gammon, assistant professor of dermatology, attended the Second Annual Physician Assistant Refresher Course April 7, at Fort Bragg. He lectured on "Open and Closed Wet Dressings for the Treatment of Acute Skin Disease," "Dry Skin and Eczemas," "Meningococemia" and "Vasculitis."

* * *

Dr. Donald C. Whitenack, associate professor of family medicine, was course director for the North Carolina Chapter of the American Academy of Family Medicine's 1981 "What's New in Family Medicine" program, June 29-July 3, at Appalachian State University in Boone.

News Notes from the—

EAST CAROLINA UNIVERSITY SCHOOL OF MEDICINE

East Carolina University awarded medical degrees to its first class of physicians in a May 8 ceremony that was characterized by Gov. James B. Hunt Jr. as a milestone and the realization of a dream come true for many people.

Hunt joined with ECU Chancellor Emeritus Leo W. Jenkins in placing doctoral hoods on the 28 students in a colorful ceremony frequently marked by applause for the young physicians and the development of the School of Medicine. Chancellor Thomas B. Brewer presented diplomas to the class.

Students, their families and supporters of the school were also honored at a School of Medicine convocation May 7. Speakers included Dean William E. Laupus, Chancellor Brewer, Judge H. Horton Rountree, Dr. Edwin W. Monroe, Dr. Wallace R. Wooles

and Dr. Harold C. Wiggers. Jenkins was the keynote speaker.

Highlighting the convocation was the presentation of student awards. Eugene Davis Day Jr. of Durham received the Edgar T. Beddingfield Jr. Memorial Award honoring the late Dr. Beddingfield of Wilson, the Jacob Furth Memorial Award in internal medicine, the Department of Pathology Award and the William E. Laupus Pediatrics Award. Linda Robertson of Rural Hall received the Sandoz Pharmaceutical Award, the John Hunter Award in surgery and the American Medical Women's Association Award.

Other awards included the Department of Anatomy Award and Department of Pathology Award to Thomas L. Beatty Jr. of Charlotte; the Family Practice Award to Michael David Tripp of Ash; the Department of Pathology Award to Kenneth Stuart Lee of Smithfield; the Philip G. Nelson Award in psychiatry to Bonnie A. Caulkins of Murfreesboro; the Department of Radiology Award to Tony P. Smith of Conover; and American Medical Women's Association Awards to Bonnie Caulkins and Mary Beth Foil of Chapel Hill.

David R. Faber of Charlotte, president of the Class of 1981, presented faculty awards for outstanding teaching. They included the Resident Award to Dr.


David Pearsall, the Basic Science Award to Dr. Hubert Burden, the Clinical Faculty Award to Dr. W. Ray Walker and the Community Physician Award to Dr. Jack Welch. Students also recognized Dr. Seymour Bakerman, chairman of the Department of Pathology, by naming the class scholarship fund in his honor.

In July the charter class of physicians began residency training at 16 medical centers across the country. Eleven of them remained in North Carolina, five at ECU and Pitt County Memorial Hospital. Twelve of the students selected residencies in family medicine, four in obstetrics and gynecology, two in pediatrics, two in surgery, two in psychiatry and one each in radiology, anesthesiology, neurology, internal medicine and otorhinolaryngology. One student has not designated a specialty.

* * *

The ECU School of Medicine has been awarded full, four-year accreditation from the Liaison Committee on Medical Education. The accrediting agency also granted the school permission to increase freshman enrollment to 52 students in the fall of 1981.

ECU received provisional accreditation for the four-year program in April 1977 and admitted the



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charter class in August that year. LCME representatives last visited the school in November 1980 to examine the progress of the program before the graduation of the first physicians.

The increase in freshman admissions will raise the enrollment to 174 students next year.

* * *

Dr. John Moskop, assistant professor of pediatrics and humanities, presented "The Role of the M.D. and the Patient's Right to Choose Suicide" to faculty and students at State University Hospital of the Upstate Medical Center, Syracuse, N.Y.

An article by Moskop and Dr. Loretta Kopelman, associate professor of pediatrics and humanities, appears in the May issue of the *Journal of Medicine and Philosophy*. The article is entitled "The Holistic Health Movement: A Survey of Critique."

* * *

Two members of the Department of Physiology have received recognition awards from the American Heart Association. Dr. Edward M. Lieberman, professor, received the Founder's Award, and Dr. John C. Yeager, assistant professor, received the Achievement Award.

* * *

Dr. Robert S. Fulghum, associate professor of microbiology, gave the Louis B. Smith Honorary Lecture May 15 at Christopher Newport College in Newport News, Va. His lecture was entitled "The Role of Anaerobic Bacteria in Selected Environments Including Their Role in Infections."

* * *

Dr. E. Jackson Allison Jr., associate professor and chairman of the Department of Emergency Medicine, was a seminar leader at the state conference of the Association of Emergency Medical Technicians and the Emergency Department Nurses Association. The seminars were entitled "From the Ditch to I.C.U.: Code Blue and Crash Carts" and "What E.M.S. Is All About."

Allison also has been appointed chairman-elect of the Section on Emergency Medicine of the N.C. Medical Society.

* * *

Dr. Frank Thomas, professor of surgery, presented "Multi-Organ Donation" at the Fourth Annual Nephrology Symposium in Omaha, Neb.

* * *

Dr. James Mathis, professor and chairman of the Department of Psychiatry, attended the Oklahoma State Medical Association's meeting and presented "Suicide: The Mortality of Depression," "Psychiatry in Medicine" and "Cults."

* * *

Dr. Melvin S. Swanson, associate director for

medical education and evaluation, Dr. Robert P. Dillard, assistant professor of pediatrics, and Dr. Angela Stewart, resident in pediatrics, have received \$2,500 from Ross Laboratories to study "The Present Practice of Pediatricians in Providing Newborn Health Care Information to Parents."

* * *

Dr. P. Bruce Campbell, associate professor of medicine, and Dr. Yash P. Kataria, associate professor of medicine are the authors of "Sarcoidosis: Elaboration of an Inhibitor of Monocyte Leukotaxis (MLX) by Cutaneous Granulomata (SCG)." Campbell presented the paper in San Francisco to the American Federation for Clinical Research.

Campbell also presented "Sarcoidosis: Leukotactic Lymphokine Production by Intact Cutaneous Granulomata" at the American Lung Association's annual meeting in Detroit. Kataria was also coauthor.

Kataria, Campbell and Dr. Byron T. Burlingham, professor and chairman of the Department of Microbiology, published "Acute Pulmonary Histoplasmosis Presenting as Adult Respiratory Distress Syndrome: Effective Therapy on Clinical and Laboratory Features" in the May issue of the *Southern Medical Journal*.

* * *

Several members of the Department of Biochemistry attended the American Society of Biological Chemists meeting in St. Louis May 31-June 4. Representing the department were Dr. Wilhelm R. Frisell, professor and chairman, Dr. Sam N. Pennington, professor, and Dr. Richard H. L. Marks, associate professor. Pennington presented "Ethanol-Induced Suppression of Fetal Growth," and Marks presented "Chemical Crosslinking of Azurin and Cytochrome c-551 from *Pseudomonas Aeruginosa*."

* * *

Dr. Uwe R. Muller, assistant professor of microbiology, has received \$19,000 from the N.C. Board of Science and Technology to study the "Construction of ØX174, G4, and SV40 Mutants with Modified Intercistronic Regions."

* * *

Dr. R. Stephen Porter, assistant professor family medicine, presented "General Principles of Therapeutic Drug Monitoring" to the Department of Medicine at Memorial Hospital in Danville, Va., on May 5.

* * *

Dr. G. Lynis Dohm, associate professor of biochemistry, presented "Increased Excretion of N^T-Methylhistidine and Urea by Rats and Humans After a Bout of Exercise" to the American College of Sports Medicine meeting in Miami Beach May 26-29.

The Center for Student Opportunities recently sponsored its Third Annual Health Careers Day. More than 100 students from N.C. and Virginia high schools and colleges attended the one-day program conducted by directors and associate directors from the N.C. Health Manpower Development Program.

NORTH CAROLINA HOSPITAL ASSOCIATION

Dr. Christopher Fordham, chancellor of the University of North Carolina at Chapel Hill, was presented the N.C. Hospital Association Distinguished Service Award at a ceremony in May on the campus. The award, the highest bestowed by the association,

was presented by Donald C. Hiscott, chairman of the association trustees.

AMERICAN COLLEGE OF CARDIOLOGY

Eric H. Conn, M.D., of the Duke University Medical Center is one of five recipients of \$15,000 Adult Cardiology Fellowship Training Awards under a new program established by the American College of Cardiology and the Merck Company Foundation. The one-year awards support the development of new programs in clinical and preventive medicine which may have a positive impact on the high mortality and morbidity statistics for cardiovascular disease.

The mind may be considered as the granary, into which the senses, as the labourers, collect knowledge for future purposes. The wider the range of the power of the latter, the greater will be the harvest gathered by them. Thus the telescope by enlarging the sphere of vision, has discovered new phenomena in the heavens; and the tests of chemistry are assistant agents in rendering sensible qualities which would otherwise have passed unobserved on the earth. The microscope may probably be employed to discover properties now unknown, and introduce us to a world of objects near to us, as vast and as curious for its minuteness, as that of the great and distant objects, which the telescope has demonstrated.

It is thus, then, by increasing the power of the senses, that science becomes more productive. When, however, we look around us, and find that all nature, instead of being at rest, presents a scene of constant motion and change, connected and hung together in a series of indissoluble links, we are led to examine other relations of bodies; relations which constitute the most essential parts of all knowledge — those of cause and effect. In medicine, their history is that of the origin and the cure of diseases; it therefore deserves minute and accurate investigation. Let us examine a few instances. Arrest the supply of oxygen to the lungs, and life ceases in the more perfect animals. Continued frost stops the fevers of summer. Emetics produce a discharge of the contents of the stomach. In all these instances, the effect is invariably and indissolubly connected with its cause. They have continued the same from the earliest observation, and will do so to the end of time. Cause and effect are, therefore, the most important considerations of medical and other sciences. — *Elements of the Theory and Practice of Physic*, by George Gregory, M.D., with notes and additions, adapted to the Practice of the United States, by Nathaniel Potter, M.D., and S. Colhoun, M.D. Vol. I, Philadelphia, Towar & Hogan, 1829.

In Memoriam

JOHN COCHRANE REECE, M.D.

Dr. John Cochrane Reece, for many years director of the Laboratory and Pathology Departments of Grace Hospital in Morganton, died Jan. 11. During the time that he was the only pathologist between Asheville and Winston-Salem, he offered his services to hospitals in a number of surrounding communities and was still serving some of the smaller hospitals at the time of his death. Dr. Reece went from Statesville High School to Mars Hill Junior College, then to Wake Forest College at Wake Forest, graduating with a B.S. degree in 1936. While at Wake Forest he worked in the laboratories to help pay for his medical education, and his pathology professor, Dr. Coy C. Carpenter, who later became dean of the Bowman Gray School of Medicine, encouraged him to become a pathologist.

On the recommendation of Dr. Thurmond Kitchen, Dr. Reece, when he had completed Wake Forest's two-year medical program, went to the New York University Medical School, where he graduated in the top level of his class. He received his North Carolina license to practice medicine in 1938 and after a year's internship in pathology at Saint Vincent's Hospital in New York, he returned for his residency in pathology at N.C. Baptist Hospital (1938-41), serving at the same time as instructor in pathology for the Bowman Gray School of Medicine which was being established in Winston-Salem.

Dr. Reece served in the Medical Corps from 1942 through 1946, holding assignment at the Army Institute of Pathology in Washington, and later working with the 154th General Hospital in Bournemouth, England. He obtained the rank of major.

He began an active medical career in Morganton and Burke county in 1946. Establishing a pathology department in the area was a new experience for both the professional people and the citizens. The word "autopsy" had to be carefully explained, and Dr. Reece was the one who could, in his compassionate manner, deal with each case not as a number but as an individual person. His careful explanations to families, to fellow doctors, to lawyers, to the courts, to the news media, were compassionate, factual and well documented.

His professional associations and honors were many. In 1958 he was elected coroner of Burke

county, having been available for the previous 12 years to conduct autopsies at the request of the local coroner and for mysterious deaths throughout the area. He worked to get the medical examiner system established in North Carolina, and the archaic coroner system was dissolved in Burke county during his administration and he became medical examiner and regional pathologist.

Dr. Reece was a member of the Burke County Medical Society, serving as president in 1958, president of Grace Hospital Medical staff in 1952 and 1967, a member of the American Medical Association and the North Carolina Society of Pathologists (president 1955-56), and a Fellow of the American Society of Clinical Pathologists. Always interested in organized medicine to promote medicine to the highest levels, he became active in the North Carolina Medical Society and began a number of years of service to this organization. He was Ninth District Councillor, a member of the Executive Council, president-elect of the society and then president in 1959-60. At 44, he was the second youngest president ever elected and the second Burke county physician to head the society since 1900. Dr. Reece headed the society's grievance committee in 1961-62 and was speaker of the House of Delegates from 1962-65. He served as chairman of Eastern Appalachian Regional Health Council and in Burke county was active in the Council on Alcoholism, attending physician at the Red Cross Bloodmobile for 17½ years, a favorite organization of his, and a member and medical advisor of the rescue squad. He was appointed chairman of Hospital Board of Control by Gov. Luther Hodges; a member of the Medical Advisory Council of the State Board of Mental Health by Gov. Terry Sanford and by Gov. Robert Scott; and, to the North Carolina Cancer Study Commission by Gov. Dan K. Moore.

Dr. Reece was co-author of a paper on "Simultaneous Death in Schizophrenic Twins" — the unusual deaths occurred at Broughton Hospital. He was a member of the Burke County Historical Society and a deacon and elder of First Presbyterian Church.

He is survived by his wife, Adelaide, and three children, Mrs. James Small of Birmingham, Ala., Mr. Robert Reece of Raleigh, and Mr. John C. Reece, Jr., of Morganton.

Burke County Medical Society

***Committee &
Commission Appointments
1981-1982***

Committee and Commission Appointments 1981-1982

NOTE: The committees listed herein have been authorized by President Josephine E. Newell, M.D., and/or as required under the Constitution and Bylaws. Particular note should be taken of the authorization of the HOUSE OF DELEGATES of a Commission form of organization activity and that all Committees, excepting COMMITTEE ON NOMINATIONS, COUNCIL ON REVIEW AND DEVELOPMENT, and MEDIATION COMMITTEE are segregated under the respective Commission in which the function of the Committee logically rests. This will tend to eliminate overlapping and duplication in activity programs and result in coordination of the work of the Society in a manner to lessen the work of the Delegates in the Annual Meeting of the HOUSE OF DELEGATES.

(Superior figures (e.g. 21) indicate the component County Society from which the member emanates, as in the Membership list of the ROSTER.)

I. ADMINISTRATION COMMISSION

Thomas B. Dameron, Jr., M.D., *Commissioner* (919-781-5600)
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*Committee
Listing*

1. **Finance Com. on (I-1)** No. 17
Ernest B. Spangler, M.D., *Chairman* (919-855-8972)
Drawer X-3, Greensboro 27402
2. **Insurance Plans, Com. to Investigate Various (I-2)** No. 22
Jesse Caldwell, Jr., M.D., *Chairman* (704-865-0968)
1307 Park Lane, Gastonia 28052
3. **Membership, Com. on (I-3)** No. 33
John W. Foust, M.D., *Chairman*
3535 Randolph Rd., Charlotte 28211 (704-365-0711)
4. **Personnel & Headquarters Operation, Com. on (I-4)** No. 38
Shahane R. Taylor, Jr., M.D., *Chairman* (919-274-4262)
348 N. Elm St., Greensboro 27401
5. **Professional Insurance, Com. on (I-5)** No. 41
Julius A. Green, Jr., M.D., *Chairman* (919-787-8221)
P.O. Box 19366, Raleigh 27609
6. **Retirement Savings Plan Committee (I-6)** No. 43
W. Lester Brooks, Jr., M.D., *Chairman* (704-333-4175)
1851 E. Third St., Charlotte 28204
7. **ad hoc Com. to Delineate the Administrative Code** No. 46
for the North Carolina Medical Society (I-7)
E. Thomas Marshburn, Jr., M.D., *Chairman* (919-762-9621)
3208 Oleander Dr., Wilmington 28401

II. ADVISORY AND STUDY COMMISSION

F. Maxton Mauney, Jr., M.D., *Commissioner* (704-258-1121)
257 McDowell St., Asheville 28803

*Committee
Listing*

1. **Allied Health Professionals, Com. on (II-1)** No. 2
Thad B. Wester, M.D., *Chairman* (919-739-3318)
103 W. 27th St., Lumberton 28358
2. **Cancer, Com. on (II-2)** No. 6
Charles L. Spurr, M.D., *Chairman* (919-748-4464)
Bowman Gray, Winston-Salem 27103
3. **Medical Cost Containment, Com. on (II-3)** No. 29
Jack B. Hobson, M.D., *Chairman* (704-374-1296)
1351 Durwood Dr., Charlotte 28204

4. Medicine & Nursing, Com. on Relationships between (II-4) No. 32

C. Glenn Pickard, Jr., M.D., *Chairman* (919-966-5650)
N.C. Memorial Hospital, Chapel Hill 27514

5. Operative Deaths, Com. on Study of (II-5) No. 37

Albert A. Bechtoldt, Jr., M.D., *Chairman* (919-966-5136)
UNC, Dept. of Anes., Chapel Hill 27514

6. Traffic Safety, Com. on (II-7) No. 45

George Johnson, Jr., M.D., *Chairman* (919-966-3391)
N.C. Memorial Hospital, Chapel Hill 27514

III. ANNUAL CONVENTION COMMISSION

Gloria F. Graham, M.D., *Commissioner* (919-291-5600)
702 Broad St., Wilson 27893

*Committee
Listing*

1. **Aging, Com. on (III-1)** No. 1
Edna M. Hoffman, M.D., *Chairman* (919-485-8801)
348 Valley Rd., Fayetteville 28305
2. **Arrangements, Com. on (III-2)** No. 3
Jack Hughes, M.D., *Chairman* (919-286-1297)
923 Broad St., Durham 27705
3. **Auxiliary, Com. Advisory to (III-3)** No. 4
Rose Pully, M.D., *Chairman* (919-523-2569)
318 College St., Kinston 28501
4. **Constitution & Bylaws, Com. on (III-4)** No. 9
P. G. Fox, Jr., M.D., *Chairman* (919-876-4323)
P.O. Box 17908, Raleigh 27619
5. **Credentials, Com. on (of Delegates to House of Delegates) (III-5)** No. 11
Louis R. Wilkerson, M.D., *Chairman* (919-832-5529)
100 S. Boylan Ave., Raleigh 27603
6. **Ethics & Religion, Com. on (III-6)** No. 15
Gloria F. Graham, M.D., *Chairman* (919-291-5600)
702 Broad St., Wilson 27893
7. **Medical Education, Com. on (III-7)** No. 30
John D. Bridgers, Sr., M.D., *Chairman* (919-882-4171)
624 Quaker Lane, Ste. 200-A, High Point 27262

IV. PROFESSIONAL SERVICE COMMISSION

Charles A. Hoffman, Jr., M.D., *Commissioner* (919-485-8801)
513 Owen Dr., Fayetteville 28304

Committee Listing

- | | |
|--|---------------|
| 1. Blue Shield, Com. on (IV-1) | No. 5 |
| Walter M. Roufail, M.D., <i>Chairman</i> (919-725-8326) 2240 Cloverdale Ave., Ste. 88, Winston-Salem 27103 | |
| 2. Crippled Children's Program, Com. Adv. to (IV-2) | No. 12 |
| David R. Williams, M.D., <i>Chairman</i> (919-475-2348) Southgate Shopping Center, Thomasville 27360 | |
| 3. Health Planning & Development, Com. on (IV-3) | No. 19 |
| William E. Laupus, M.D., <i>Chairman</i> (919-757-4627) ECU, Dean's Office, Greenville 27834 | |
| 4. Human Resources, Com. Liaison to Dept. of (IV-4) | No. 20 |
| Julian F. Keith, Jr., M.D., <i>Chairman</i> (919-748-2251) Bowman Gray, Dept. of Family Med., Winston-Salem 27103 | |
| 5. Industrial Commission, Com. to Work with N.C. (IV-5) | No. 21 |
| Thomas E. Castelloe, M.D., <i>Chairman</i> (919-781-5600) P.O. Box 10707, Raleigh 27605 | |
| 6. Rehabilitation Medicine, Com. on (IV-6) | No. 42 |
| Robert E. Miller, M.D., <i>Chairman</i> (704-373-0544) 1822 Brunswick Ave., Charlotte 28207 | |
| 7. Social Services Programs, Com. on (Including Medicaid) (IV-7) | No. 44 |
| Joseph D. Russell, M.D., <i>Chairman</i> (919-291-1300) Carolina Clinic, Wilson 27893 | |

V. PUBLIC AFFAIRS COMMISSION

John L. McCain, M.D., *Commissioner* (919-291-7001)
Wilson Clinic, Wilson 27893

Committee Listing

- | | |
|--|---------------|
| 1. Communications, Com. on (V-1) | No. 8 |
| Elizabeth P. Kanof, M.D., <i>Chairman</i> (919-833-3672) 1300 St. Mary's St., Raleigh 27605 | |
| 2. Disaster & Emergency Medical Care, Com. on (V-2) | No. 13 |
| Joseph A. Moylan, M.D., <i>Chairman</i> (919-684-2237) Duke Med. Ctr., Box 3056, Durham 27710 | |
| 3. Eye Care & Eye Bank, Com. on (V-3) | No. 16 |
| Albin W. Johnson, M.D., <i>Chairman</i> (919-781-7400) 2800 Blue Ridge Blvd., Ste. 409, Raleigh 27607 | |
| 4. Legislation, Com. on (V-4) | No. 24 |
| Don C. Chaplin, M.D., <i>Chairman</i> (919-227-3621) Kernodle Clinic, Burlington 27215 | |
| 5. Medical Aspects of Sports, Com. on (V-5) | No. 27 |
| Frank W. Clippinger, Jr., M.D., <i>Chairman</i> (919-684-4229) Duke Med. Ctr., Box 3935, Durham 27710 | |
| 6. Medical-Legal Committee (V-6) | No. 31 |
| Julius Howell, M.D., <i>Chairman</i> (919-748-4171) Bowman Gray, Winston-Salem 27103 | |

VI. PUBLIC SERVICE COMMISSION

Rose Pully, M.D., *Commissioner*, (919-523-2569)
318 College St., Kinston 28501

Committee Listing

- | | |
|--|---------------|
| 1. Child Health & Infectious Diseases, Com. on (VI-1) | No. 7 |
| William L. London, M.D., <i>Chairman</i> (919-688-6349) 306 S. Gregson St., Durham 27701 | |
| 2. Drug Abuse & Pharmacy, Com. on (VI-2) | No. 14 |
| John A. Ewing, M.D., <i>Chairman</i> (919-966-4551) N.C. Memorial Hospital, Chapel Hill 27514 | |
| 3. Jail Project, Com. Advisory to (VI-3) | No. 23 |
| Philip G. Nelson, M.D., <i>Chairman</i> (919-758-3145) Medical Pavilion, Ste. 9, Greenville 27834 | |
| 4. Maternal Health, Com. on (VI-4) | No. 25 |
| Robert G. Brame, M.D., <i>Chairman</i> (919-757-4620) ECU, Dept. of OB-GYN, Greenville 27834 | |
| 5. Mental Health, Com. on (VI-5) | No. 34 |
| Wilmer C. Betts, M.D., <i>Chairman</i> (919-782-0166) 3125 Glenwood Prof. Village, Raleigh 27608 | |
| 6. Occupational & Environmental Health, Com. (VI-6) | No. 36 |
| Austin T. Hyde, Jr., M.D., <i>Chairman</i> (704-286-9036) P.O. Box 970, Rutherfordton 28139 | |
| 7. Physicians' Health & Effectiveness, Com. on (VI-7) | No. 39 |
| Theodore R. Clark, M.D., <i>Chairman</i> (919-295-1231) P.O. Box 1569, Pinehurst 28374 | |
| 8. Medical Care of Prison Residents, Com. to Investigate Grievances Relative to (VI-8) | No. 48 |
| Jesse Caldwell, Jr., M.D., <i>Chairman</i> (704-865-0968) 1307 Park Lane, Gastonia 28052 | |

COMMITTEES NOT ASSIGNED TO A COMMISSION

COUNCIL ON REVIEW & DEVELOPMENT

J. B. Warren, M.D., *Chairman* (919-637-6193)
P.O. Box 1465, New Bern 28560

MEDIATION COMMITTEE

Jesse Caldwell, Jr., M.D., *Chairman* (704-865-0968)
1307 Park Lane, Gastonia 28052
Frank Sohmer, M.D., *Secretary* (919-725-8326)
2240 Cloverdale Ave., Ste. 88, Winston-Salem 27103

COMMITTEE ON NOMINATIONS

Gloria F. Graham, M.D., *Chairman* (919-291-5600)
702 Broad St., Wilson 27893

1. Committee on Aging III-1 (7) (2 Consultants)

Edna M. Hoffman, M.D.²⁶ *Chairman* (919-485-8801)
348 Valley Rd., Fayetteville 28305
Paul Beck, M.D.⁹² (IM) (919-755-8532)
3000 New Bern Ave., Raleigh 27610
Donald V. Chamblee, M.D.⁶⁰ (GP) (704-366-5002)
P.O. Box 220892, Charlotte 28222
Joseph J. Combs, M.D.⁹² (IM) (919-787-9032)
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James S. Forrester, M.D.³⁶ (FP) (704-263-4716)
P.O. Box 459, Stanley 28164
Frank W. Leak, M.D.⁸² (FP) (919-592-6011)
Clinton Med. Ctr., Clinton 28328
John L. McCain, M.D.⁹⁸ (RHU) (919-291-7001)
Wilson Clinic, Wilson 27893

Consultants:

Mrs. Hampton Hubbard (Anne)
(Auxiliary President) (919-592-7885)
102 Country Club Circle, Clinton 28328
Mrs. Edwin Martinat (Martha) (Auxiliary) (919-678-0339)
120 Sherwood Forest Rd., Winston-Salem 27104

2. Committee on Allied Health Professionals II-1 (8) (5 Consultants)

Thad B. Wester, M.D.⁷⁸ (PD) *Chairman* (919-739-3318)
103 W. 27th St., Lumberton 28358
Roy A. Agner, Jr., M.D.⁸⁰ (IM) (704-633-7220)
611 Mocksville Ave., Salisbury 28144
William M. Fowlkes, Jr., M.D.⁹² (P) (919-851-8888)
1209 Glendale Dr., Raleigh 27612
Susan S. Gustke, M.D.⁹² (IM) (919-733-5431)
4100 Stranaver Pl., Raleigh 27612
Ira M. Hardy, II, M.D.⁷⁴ (NS) (919-752-5156)
125 Moye Blvd., Greenville 27834
Henry H. Nicholson, Jr., M.D.⁶⁰ (GS) (704-375-8956)
1012 Kings Dr., Ste. 708, Charlotte 28283
Frank N. Sullivan, M.D.⁹⁸ (FP) (919-243-3395)
603 E. Nash St., Wilson 27893
Wayne B. Venters, M.D.⁶⁷ (ORS) (919-353-1413)
200 Doctors Dr., Ste. J, Jacksonville 28540

Consultants:

Ms. Allene Cooley (NP) (919-748-4356)
PA Prog., Bowman Gray, Winston-Salem 27103
Ms. Kae Enright (PA) (919-684-8111)
Duke Med. Ctr., Box 3056, Durham 27710
Ms. Estele Fulp, RN, Chief Nurse (919-733-3131)
Div. Health Services, P.O. Box 2091, Raleigh 27602
Mr. James Hill (PA) (704-847-5447)
9801 Sardis Oaks Rd., Matthews 28105
Mr. Bryant D. Paris, Executive Secretary (919-833-5321)
Board of Medical Examiners, 222 N. Person St., Ste. 214, Raleigh 27601

3. Committee on Arrangements III-2 (12)

Jack Hughes, M.D.³² (U) *Chairman* (919-286-1297)
923 Broad St., Durham 27705
Henry J. Carr, Jr., M.D.⁸² (IM) (919-592-6114)
603 Beaman St., Clinton 28328
William B. Costenbader, Jr., M.D.¹¹ (OTO) (704-254-3517)
131 McDowell St., Asheville 28801
Mrs. A. J. Crutchfield (Peggy) (Auxiliary) (919-766-4585)
Rt. 3, Box 848, Clemmons 27012
Eugene D. Furth, M.D.⁷⁴ (END) (919-757-4633)
ECU, Dept. of Med., Greenville 27834
Gloria F. Graham, M.D.⁹⁸ (D) (919-291-5600)
702 Broad St., Wilson 27893
Edna Hoffman, M.D.²⁶ (919-485-8801)
348 Valley Rd., Fayetteville 28305
James D. Hundley, M.D.⁶⁵ (ORS) (919-763-7344)
2001 S. 17th St., Wilmington 28401
Robert S. Lackey, M.D.⁶⁰ (R) (704-373-2274)
2118 Pinewood Circle, Charlotte 28211
Emery C. Miller, Jr., M.D.³⁴ (END) (919-748-4145)
Bowman Gray, Winston-Salem 27103
J. Flint Rhodes, M.D.⁹² (U) (919-781-7113)
2800 Blue Ridge Blvd., Ste. 403, Raleigh 27607
William B. Wood, M.D.³² (PUD) (919-933-2118)
UNC, 231 MacNider Bldg., Chapel Hill 27514

4. Committee Advisory to Auxiliary III-3 (5) (2 Consultants)

Rose Pully, M.D.⁵⁴ (FP) *Chairman* (919-523-2569)
318 College St., Kinston 28501
Don C. Chaplin, M.D.¹ (IM) (919-227-3621)
Kernodle Clinic, Burlington 27215
Edna Hoffman, M.D.²⁶ (919-485-8801)
348 Valley Rd., Fayetteville 28305
Hampton Hubbard, M.D.⁸² (U) (919-592-7129)
Woodside Prof. Bldg., Clinton 28328
O. Raymond Hunt, Jr., M.D.⁶⁵ (CDS) (919-763-6571)
1607 Doctors Circle, Wilmington 28401

Consultants:

Mrs. Hal J. Rollins, Jr. (Ann)
(Auxiliary Past-President) (919-274-3628)
2011 Pembroke Rd., Greensboro 27408
Mrs. Robert L. Means (Mary Jane) (Auxiliary) (919-924-9911)
4001 Philpark Dr., Winston-Salem 27106

5. Committee on Blue Shield IV-1 (31)

Walter M. Roufail, M.D.³⁴ (GE) *Chairman* (919-725-8326)
2240 Cloverdale Ave., Ste. 88, Winston-Salem 27103
Jose A. Bardelas, Jr., M.D.⁴¹ (A) (919-883-1393)
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103 W. 27th St., Lumberton 28358
James P. Culley, M.D.⁶² (GS) (919-576-5511)
Drawer D, Troy 27371
Arthur E. Davis, Jr., M.D.⁹² (PTH) (919-833-9839)
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R. Dale Ensor, M.D.⁶⁰ (U) (704-372-5180)
1333 Romany Rd., Charlotte 28204
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1705 W. Sixth St., Greenville 27834
James C. Gaither, M.D.¹⁸ (IM) (704-322-1128)
Rt. 2, Box 112, Conover 28613
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Bowman Gray, Winston-Salem 27103
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P.O. Drawer 1694, New Bern 28560
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Bowman Gray, Dept. Anes., Winston-Salem 27103
Frederic R. Kahl, M.D.³⁴ (CD) (919-748-4261)
2626 Forest Dr., Winston-Salem 27104
Edwin H. Martinat, M.D.³⁴ (ORS) (919-773-3782)
3333 Silas Creek Pkwy., Winston-Salem 27103
William B. McCutcheon, Jr., M.D.³² (TS) (919-383-5531)
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Leslie M. Morris, M.D.³⁶ (R) (704-864-4378)
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H. Maxwell Morrison, Jr., M.D.⁶³ (OPH) (919-295-6809)
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Joseph A. Moylan, M.D.³² (GS) (919-684-2237)
Duke Med. Ctr., Box 3056, Durham 27710
Timothy Pennell, M.D.³⁴ (GS) (919-748-4671)
Bowman Gray, Dept. of Surg., Winston-Salem 27103
Robert E. Price, Jr., M.D.³² (NS) (919-383-5531)
1830 Hillandale Rd., Durham 27705
Bobby A. Rimer, M.D.⁶⁰ (OBG) (704-373-3149)
Charlotte Mem. Hosp., P.O. Box 32861, Charlotte 28232

Leon W. Robertson, M.D.⁶⁴ (FP) (919-443-8810)
 107 Medical Arts Mall, Rocky Mount 27801
 Wilbur T. Shearin, Jr., M.D.⁶⁵ (U) (919-763-6251)
 1905 Glen Meade Rd., Wilmington 28403
 Edward V. Staab, M.D.³² (NM) (919-966-5233)
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 Joseph W. Stiefel, M.D.⁴¹ (N) (919-273-2511)
 200 E. Northwood St., Ste. 508, Greensboro 27401
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 2215 Randolph Rd., Charlotte 28207
 S. Terry Withers, M.D.⁵⁴ (D) (919-523-3289)
 905 N. Queen St., Kinston 28501

6. Committee on Cancer II-2 (12) (Legal—1 ea. Congressional District) (6 Consultants)

Charles L. Spurr, M.D.³⁴ (ON) *Chairman* (919-748-4464)
 Bowman Gray, Winston-Salem 27103
 Ray G. Silverthorne, M.D.⁷ (OBG) (1st) (919-946-4101)
 408 E. 12th St., Washington 27889
 Margaret Ann Nelsen, M.D.³² (ON) (2nd) (919-851-8888)
 101 Bluebridge Rd., Carrboro 27510
 John E. Prevette, M.D.⁵¹ (OBG) (3rd) (919-934-8548)
 601-A Eighth St., Smithfield 27577
 Walter E. Davis, M.D.³² (ON) (4th) (919-383-5531)
 1830 Hillandale Rd., Durham 27705
 M. Robert Cooper, M.D.³⁴ (HEM) (5th) (919-748-4300)
 330 Staffordshire Rd., Winston-Salem 27104
 Kenneth S. Karb, M.D.⁴¹ (ON) (7th) (919-272-2141)
 1007 Prof. Village, Greensboro 27401
 William H. Newman, M.D.²⁶ (GS) (7th) (919-484-4106)
 3427 Melrose Rd., Fayetteville 28304
 Richard W. Martin, M.D.⁸⁰ (GS) (8th) (704-637-2750)
 P.O. Box 1665, Salisbury 28144
 Samuel L. Orr, M.D.⁶⁰ (PTH) (9th) (704-373-2251)
 Charlotte Mem. Hosp., P.O. Box 32861, Charlotte 28232
 Avery W. McMurray, M.D.²³ (GS) (10th) (704-482-6359)
 207 Lee St., Shelby 28150
 John F. Tannehill, M.D.⁴⁴ (OTO) (11th) (704-452-1406)
 120 Hospital Dr., Clyde 28721

Consultants:

Timothy E. Cloninger, M.D.⁶⁰ (TR) (704-373-2272)
 P.O. Box 32861, Charlotte 28232
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 Walter J. Pories, M.D.⁷⁴ (GS) (919-757-4629)
 203 Chowan Rd., Greenville 27834
 William W. Shingleton, M.D.³² (GS) (919-684-2282)
 Duke Med. Ctr., Box 3814, Durham 27710
 John Sterchi, M.D.³⁴ (GS) (919-748-4276)
 Bowman Gray, Dept. Surg., Winston-Salem 27103
 Leslie A. Walton, M.D.³² (OBG) (919-966-1194)
 N.C. Mem. Hosp., Dept. OB-GYN, Chapel Hill 27514

7. Committee on Child Health & Infectious Diseases VI-1 (16)

William L. London, M.D.³² (PD) *Chairman* (919-688-6349)
 306 S. Gregson St., Durham 27701
 Marshall E. Agner, M.D.³⁶ (FP) (704-435-6058)
 609 E. Academy St., Cherryville 28021
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 Lenox Baker Children's Hosp.,
 3000 Ervin Rd., Durham, N.C. 27705
 Harrie R. Chamberlin, M.D.³² (PD) (919-966-4417)
 UNC, Dept. Ped., Chapel Hill 27514
 George C. Debnam, M.D.⁹² (GP) (919-832-1667)
 524 S. Blount St., Raleigh 27601

E. Stephen Edwards, M.D.⁹² (PD) (919-781-7490)
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 P.O. Box 86, Elizabethtown 28337
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 Div. of Health Services, P.O. Box 2091, Raleigh 27602
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 530 W. Webb Ave., Burlington 27215
 Jimmy Simon, M.D.³⁴ (PD) (919-748-4431)
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 ECU, Dept. of Ped., Greenville 27834
 Sara Lou Warren, M.D.³² (FP) (919-966-2491)
 N.C. Mem. Hosp., Chapel Hill 27514

8. Committee on Communications V-1 (9) (6 Consultants)

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 Verna Y. Barefoot, M.D.²⁵ (PH) (919-633-4121)
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 Don C. Chaplin, M.D.¹ (IM) (919-277-3621)
 Kernodle Clinic, Burlington 27215
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 A. Sherman Morris, Jr., M.D.¹¹ (OBG) (704-255-8900)
 62 Orange St., Asheville 28801
 J. Jerome Pence, Jr., M.D.⁶³ (FP) (919-763-3481)
 2305 Parham Rd., Wilmington 28401
 Nelson B. Watts, M.D.¹¹ (END) (704-254-0771)
 93 Victoria Rd., Asheville 28801
 Jack W. Wilkerson, M.D.⁷⁴ (FP) (919-752-7133)
 P.O. Box 1966, Greenville 27834

Consultants:

Mrs. G. Walker Blair, Jr. (Sara Jo) (Auxiliary) (919-226-4888)
 1904 W. Lake Dr., Burlington 27215
 Mrs. Hampton Hubbard (Anne) (Auxiliary President)
 (919-592-7885)
 102 Country Club Circle, Clinton 28328
 Mrs. O. Raymond Hunt (Eleanor) (Auxiliary President-Elect)
 (919-762-6015)
 1713 S. Live Oak Pkwy., Wilmington 28403
 Mrs. John Lyday (Irma) (Auxiliary) (919-288-5155)
 2819 St. Regis Rd., Greensboro 27408
 Ms. June Milby (919-733-4471)
 Dept. of Human Resources, 325 N. Salisbury St., Raleigh 27611
 Mr. David L. Reynolds (919-541-9090)
 Burroughs Wellcome Co., 3030 Cornwallis Rd.,
 Research Triangle 27709

9. Committee on Constitution & Bylaws III-4 (5)

P. G. Fox, Jr., M.D.⁹² (U) *Chairman* (919-876-4323)
 P.O. Box 17908, Raleigh 27619
 Henry J. Carr, Jr., M.D.⁸² (IM) (919-592-6114)
 603 Beaman St., Clinton 28328

Hector H. Henry, II, M.D.¹² (U) (704-786-5133)
 102 Lake Concord Rd., NE, Concord 28025
 Louis deS. Shaffner, M.D.³⁴ (PDS) (919-748-4502)
 Bowman Gray, Winston-Salem 27103
 Howard E. Strawcutter, M.D.⁷⁸ (U) (919-738-7166)
 101 W. 27th St., Lumberton 28358

**10. Council on Review & Development (10) (4 Ex Officio with Vote)
 (1 non-voting)**

J. B. Warren, M.D.²⁵ (FP) *Chairman* (919-637-6193)
 P.O. Box 1465, New Bern 28560
 D. E. Ward, Jr., M.D.⁷⁸ (GS) *Vice-Chairman* (919-738-4276)
 2604 N. Elm St., Lumberton 28358
 E. Harvey Estes, Jr., M.D.³² (IM) (919-684-5314)
 Duke Med. Ctr., Box 2914, Durham 27710
 Jesse Caldwell, Jr., M.D.³⁶ (GYN) (704-865-0968)
 1307 Park Lane, Gastonia 28052
 James E. Davis, M.D.³² (GS) (919-471-8439)
 2609 N. Duke St., Ste. 402, Durham 27704
 Frank R. Reynolds, M.D.⁶⁵ (PD) (919-763-4272)
 1613 Dock St., Wilmington 28401
 George G. Gilbert, M.D.¹¹ (U) (704-253-5314)
 1 Doctor's Park, Asheville 28801
 John Glasson, M.D.³² (ORS) (919-471-8431)
 2609 N. Duke St., Ste. 301, Durham 27704
 Charles W. Styron, M.D.⁹² (IM) (919-828-7773)
 615 St. Mary's St., Raleigh 27605
 Louis deS. Shaffner, M.D.³⁴ (PDS) (919-748-4502)
 Bowman Gray, Winston-Salem 27103

Ex Officio with Vote:

Frank Sohmer, M.D.³⁴ (GE) (Past President) (919-725-8326)
 2240 Cloverdale Ave., Ste. 88, Winston-Salem 27103
 Josephine E. Newell, M.D.⁹⁸ (FP) (President) (919-833-3836)
 Raleigh Townes, Apt. 47, 525 Wade Ave., Raleigh 27605
 Marshall S. Redding, M.D.⁷⁰ (OPH) (President-Elect)
 (919-335-5446)
 1142 N. Road St., Elizabeth City 27909
 Jack Hughes, M.D.³² (U) (Secretary) (919-286-1297)
 923 Broad St., Durham 27705

Ex Officio Non-Voting:

William N. Hilliard (Executive Director) (919-833-3836)
 P.O. Box 27167, Raleigh 27611

**11. Committee on Credentials (of Delegates to House of Delegates)
 III-5 (4)**

Louis R. Wilkerson, M.D.⁹² (OBG) *Chairman* (919-832-5529)
 100 S. Boylan Ave., Raleigh 27603
 W. Otis Duck, M.D.⁵⁷ (FP) (704-689-2581)
 Drawer F, Mars Hill 28754
 Charles H. Duckett, M.D.³⁴ (FP) (919-748-4479)
 Bowman Gray, Dept. Fam. Med., Winston-Salem 27103
 Carey J. Walton, Jr., M.D.¹⁴ (IM) (704-758-5544)
 315-A Mulberry St., SW, Lenoir 28645

12. Committee Advisory to Crippled Children's Program IV-2 (15)

David R. Williams, M.D.²⁹ (PD) *Chairman* (919-475-2348)
 Southgate Shopping Ctr., Thomasville 27360
 Page Anderson, M.D.³² (PDC) (919-684-2538)
 Duke Med. Ctr., Box 3218, Durham 27710
 Ralph W. Coonrad, M.D.³² (ORS) (919-286-1249)
 1828 Hillandale Rd., Durham 27705
 Gregory G. Holthusen, M.D.³⁴ (ORS) (919-768-1270)
 1425 Plaza Dr., Winston-Salem 27103

Angus M. McBryde, Jr., M.D.⁶⁰ (ORS) (704-373-0544)
 1822 Brunswick Dr., Charlotte 28207
 William W. Morgan, Jr., M.D.¹¹ (PDS) (704-274-4105)
 P.O. Box 15083, Asheville 28813
 Jerry M. Petty, M.D.⁶⁰ (NS) (704-376-1606)
 1012 Kings Dr., Ste. 101, Charlotte 28283
 M. Brent Seagle, M.D.²⁵ (OTO) (919-638-2616)
 2507 Neuse Blvd., New Bern 28560
 J. Baldwin Smith, III, M.D.³⁴ (N) (919-768-5834)
 201 Executive Park Blvd., Winston-Salem 27103
 William C. Trier, M.D.³² (PS) (919-966-4446)
 UNC, Div. of Plastic Surg., Chapel Hill 27514
 T. Reed Underhill, M.D.²⁵ (U) (919-633-2712)
 800 Hospital Dr., Ste. 4, New Bern 28560
 Kelley Wallace, Jr., M.D.⁷⁴ (PS) (919-752-1406)
 1705 W. Sixth St., Greenville 27834
 Richard L. Weaver, M.D.³⁴ (NPM) (919-727-4663)
 2116 Leeds Rd., Winston-Salem 27103
 Robert L. Young, Jr., M.D.⁷⁸ (PD) (919-739-3318)
 103 W. 27th St., Lumberton 28358

**13. Committee on Disaster & Emergency Medical Care V-2 (16)
 (1 Consultant)**

Joseph A. Moylan, M.D.³² (GS) *Chairman* (919-684-2237)
 Duke Med. Ctr., Box 3056, Durham 27710
 William R. Brown, Jr., M.D.³⁴ (NS) (919-765-3750)
 2570 Club Park Rd., Winston-Salem 27104
 John N. Ellis, M.D.⁶³ (ORS) (919-295-6831)
 Pinehurst Surgical Clinic, Pinehurst 28374
 Frederick W. Glass, M.D.³⁴ (EM) (919-748-4676)
 Bowman Gray, Winston-Salem 27103
 Douglas I. Hammer, M.D.⁹² (EM) (919-782-5488)
 P.O. Box 30788, Raleigh 27622
 George Johnson, Jr., M.D.³² (GS) (919-966-3391)
 N.C. Mem. Hospital, Chapel Hill 27514
 David L. Kelly, Jr., M.D.³⁴ (NS) (919-748-4049)
 Bowman Gray, Winston-Salem 27103
 Robert E. Miller, M.D.⁶⁰ (ORS) (704-373-0544)
 1822 Brunswick Ave., Charlotte 28207
 Donald T. Moore, M.D.³² (OBG) (919-596-8185)
 920 Chowan Ave., Durham 27703
 Richard E. Morgan, M.D.²⁵ (GS) (919-633-2081)
 403 Melody Lane, New Bern 28560
 Henry H. Nicholson, Jr., M.D.⁶⁰ (GS) (704-375-8956)
 1012 Kings Dr., Ste. 708, Charlotte 28283
 George Podgorny, M.D.³⁴ (EM) (919-727-1161)
 2115 Georgia Ave., Winston-Salem 27104
 Charles G. Rob, M.D.⁷⁴ (GS) (919-756-8131)
 230 Country Club Dr., Greenville 27834
 Llewellyn W. Stringer, M.D.³⁴ (PUD) (919-765-7517)
 1728 Hawthorne Rd., Winston-Salem 27103
 Andrew W. Walker, M.D.⁶⁰ (PS) (704-372-6846)
 2215 Randolph Rd., Charlotte 28207
 Richard L. Weaver, M.D.³⁴ (NPM) (919-727-4663)
 2116 Leeds Lane, Winston-Salem 27103

Consultant:

Mr. Thomas M. Harmelink, Chief (919-733-2285)
 Office of Emergency Med. Serv., P.O. Box 12200,
 Raleigh 27605

14. Committee on Drug Abuse & Pharmacy VI-2 (10) (6 Consultants)

John A. Ewing, M.D.³² (P) *Chairman* (919-966-4551)
 N.C. Mem. Hospital, Chapel Hill 27514
 Roy J. Blackley, M.D.⁹² (P) (919-733-7011)
 Dept. of Human Resources, 325 N. Salisbury St.,
 Raleigh 27611

Marianne S. Breslin, M.D.³² (P) (919-684-5758)

Duke Med. Ctr., Box 3837, Durham 27710

Malcolm Fleishman, M.D.²⁶ (IM) (919-484-0144)

P.O. Box 35126, Fayetteville 28302

W. J. K. Rockwell, M.D.³² (P) (919-684-3073)

Duke Med. Ctr., Dept. of Psy., Durham 27710

Llewellyn W. Stringer, M.D.³⁴ (PUD) (919-765-7517)

1728 S. Hawthorne Rd., Winston-Salem 27103

Horatio P. Van Cleve, M.D.³⁴ (FP) (919-748-4479)

604 Archer Rd., Winston-Salem 27106

Robert W. Whitener, M.D.⁴¹ (P) (919-274-1250)

1024 Professional Village, Greensboro 27401

Robert E. Williford, M.D.⁷⁶ (FP) (919-625-4000)

208 Foust St., Asheboro 27203

W. Samuel Yancey, M.D.³² (PD) (919-688-6349)

306 S. Gregson St., Durham 27701

Consultants:

Lt. Col. Jack F. Cardwell (919-733-7952)

N.C. Highway Patrol, P.O. Box 27687, Raleigh 27611

Mr. F. E. (Roy) Epps (919-733-4555)

Div. of Mental Health & Retardation, 3800 Barrett Dr.,

Raleigh 27609

Mrs. Lady Faircloth (919-733-4670)

Div. of Mental Health & Retardation, 325 N. Salisbury St.,

Raleigh 27611

Mr. A. H. Mebane, III, Executive Director (919-967-2237)

N.C. Pharmaceutical Assn., Drawer 151, Chapel Hill 27514

Mr. Haywood R. Starling, Director (919-733-4311)

SBI, P.O. Box 29500, Raleigh 27626

Mr. David R. Work, Secretary-Treasurer (919-942-4454)

N.C. Board of Pharmacy, P.O. Box 471, Chapel Hill 27514

15. Committee on Ethics & Religion III-6 (10) (2 Consultants)

Gloria F. Graham, M.D.⁹⁸ (D) *Chairman* (919-291-5600)

702 Broad St., Wilson 27893

Elms L. Allen, M.D.³⁴ (HEM) (919-765-4131)

1405 Plaza Dr., Winston-Salem 27103

M. Robert Cooper, M.D.³⁴ (HEM) (919-748-4300)

330 Staffordshire Rd., Winston-Salem 27104

Austin T. Hyde, Jr., M.D.⁸¹ (A) (704-286-9036)

P.O. Box 970, Rutherfordton 28139

Marjorie E. F. Matthews, M.D.⁸⁶ (FP) (919-368-4198)

P.O. Box 667, Pilot Mountain 27041

John S. Rhodes, M.D.⁹² (U) (919-833-4582)

1617 Oberlin Rd., Raleigh 27608

Louis deS. Shaffner, M.D.³⁴ (GS) (919-748-4502)

Bowman Gray, Winston-Salem 27103

Lewis S. Thorp, M.D.⁶⁴ (FP) (919-443-9084)

100 Medical Arts Mall, Rocky Mount 27801

Charles B. Wilkerson, Jr., M.D.⁹² (IM) (919-834-1051)

102 S. Boylan Ave., Raleigh 27603

Lucien S. Wilkins, M.D.⁶⁵ (GE) (919-763-8251)

1202 Medical Center Dr., Wilmington 28401

Consultants:

Mrs. Hampton Hubbard (Anne) (Auxiliary President)

(919-592-7885)

102 Country Club Circle, Clinton 28328

Harmon Smith, Ph.D. (919-489-0022)

The Divinity School, Duke University, Durham 27706

16. Committee on Eye Care & Eye Bank V-3 (15)

Albin W. Johnson, M.D.⁹² (OPH) *Chairman* (919-781-7400)

2800 Blue Ridge Blvd., Ste. 409, Raleigh 27607

Charles L. Baltimore, Jr., M.D.⁷ (OPH) (919-946-2171)

P.O. Box 879, Washington 27889

Frederick C. Butler, Jr., M.D.⁶⁵ (OPH) (919-763-3601)

1915 Glen Meade Rd., Wilmington 28401

Lee A. Clark, Jr., M.D.⁹⁸ (OPH) (919-291-7001)

Wilson Clinic, Wilson 27893

Andrew Davidson, M.D.²⁵ (OPH) (919-633-4183)

P.O. Box 250, New Bern 28560

Robert E. Dawson, M.D.³² (OPH) (919-682-7175)

512 Simmons St., Durham 27701

Baird S. Grimson, M.D.³² (OPH) (919-966-5296)

UNC, 617 Clinical Science Bldg., 229-H, Chapel Hill 27514

Edward K. Isbey, Jr., M.D.¹¹ (OPH) (704-258-1586)

495 Biltmore Ave., Asheville 28801

Charles G. Kirby, M.D.⁴⁹ (OPH) (704-872-0961)

925 Thomas St., Statesville 28677

John W. Reed, M.D.³⁴ (OPH) (919-748-4091)

Bowman Gray, Dept. of Oph., Winston-Salem 27103

M. Bruce Shields, M.D.³² (OPH) (919-684-2841)

Duke University Eye Ctr., Durham 27710

James B. Sloan, M.D.⁶⁵ (OPH) (919-763-3601)

1915 Glen Meade Rd., Wilmington 28401

J. David Stratton, M.D.⁶⁰ (OPH) (704-364-8576)

3535 Randolph Rd., R-202, Charlotte 28211

Shahane R. Taylor, Jr., M.D.⁴¹ (OPH) (919-274-4626)

348 N. Elm St., Greensboro 27401

David W. White, M.D.⁷⁴ (OPH)

624 Quaker Ln., Ste. 202-C, High Point 27262

17. Committee on Finance I-1 (6) (7 Consultants)

Ernest B. Spangler, M.D.⁴¹ (R) *Chairman* (919-855-8972)

Drawer X-3, Greensboro 27402

Thomas B. Dameron, Jr., M.D.⁹² (ORS) (919-781-5600)

P.O. Box 10707, Raleigh 27605

E. Thomas Marshburn, Jr., M.D.⁶⁵ (IM) (919-762-9621)

3208 Oleander Dr., Wilmington 28401

Charles T. McCullough, Jr., M.D.¹¹ (ORS) (704-254-9504)

Bone & Joint Clinic, Doctor's Dr., Asheville 28801

Thomas F. O'Brien, Jr., M.D.⁷⁴ (GE) (919-757-4652)

ECU Sch. of Med., Greenville 27834

Shahane R. Taylor, Jr., M.D.⁴¹ (OPH) (919-274-4626)

348 N. Elm St., Greensboro 27401

Consultants:

Thomas B. Dameron, Jr., M.D.⁹² (ORS) (919-781-5600)

P.O. Box 10707, Raleigh 27605

F. Maxton Mauney, Jr., M.D.¹¹ (CDS) (704-258-1121)

257 McDowell St., Asheville 28803

Gloria F. Graham, M.D.⁹⁸ (D) (919-291-5600)

702 Broad St., Wilson 27893

Charles A. Hoffman, Jr., M.D.²⁶ (U) (919-485-8801)

513 Owen Dr., Fayetteville 28304

John L. McCain, M.D.⁹⁸ (RHU) (919-291-7001)

Wilson Clinic, Wilson 27893

Rose Pully, M.D.⁵⁴ (FP) (919-523-2569)

318 College St., Kinston 28501

T. Tilghman Herring, M.D.⁹⁸ (OM) (919-291-7001)

Wilson Clinic, Wilson 27893

18. Representative on Governor's Advisory Council on Aging (1) (4-year term)

Joseph J. Combs, M.D.⁹² (IM) (1985) (919-787-9032)

2125 White Oak Rd., Raleigh 27608

19. Committee on Health Planning & Development IV-3 (16)

William E. Laupus, M.D.⁷⁴ (PD) *Chairman* (919-757-4627)

ECU, Dean's Office, Greenville 27834 (HSA Region VI)

Lloyd W. Bailey, M.D.⁶⁴ (OPH) (919-443-5164)

109 Foy Dr., Rocky Mount 27801

- John D. Bridgers, Sr., M.D.⁴¹ (PD) (919-882-4171)
624 Quaker Lane, Ste. 200-A, High Point 27262
- W. Lester Brooks, Jr., M.D.⁶⁰ (IM) (704-333-4175)
1851 E. Third St., Charlotte 28204 (HSA Region III)
- Thornton R. Cleek, M.D.⁷⁶ (FP) (919-629-2387)
379 S. Cox St., Asheboro 27203
- James E. Davis, M.D.³² (GS) (919-471-8439)
2609 N. Duke St., Ste. 402, Durham 27704
- Paul Green, Jr., M.D.⁸⁰ (OBG) (704-636-9270)
315 Mocksville Ave., Salisbury 28144
- T. Reginald Harris, M.D.²³ (PUD) (704-482-1482)
808 Schenck St., Shelby 28150 (HSA Region I)
- Charles A. Hoffman, Jr., M.D.²⁶ (U) (919-485-8801)
513 Owen Dr., Fayetteville 28304
- John L. McCain, M.D.⁹⁸ (RHU) (919-291-7001)
Wilson Clinic, Wilson 27893
- J. Jerome Pence, Jr., M.D.⁶⁵ (FP) (919-763-3481)
2305 Parham Rd., Wilmington 28401
- George Podgorny, M.D.³⁴ (EM) (919-727-1161)
2115 Georgia Ave., Winston-Salem 27104
- Walter M. Roufail, M.D.³⁴ (GE) (919-725-8326)
2240 Cloverdale Ave., Ste. 88, Winston-Salem 27103
(HSA Region II)
- Howard E. Strawcutter, M.D.⁷⁸ (U) (919-738-7166)
101 W. 27th St., Lumberton 28358 (HSA Region V)
- John W. Watson, M.D.³⁹ (FP) (919-693-8126)
104 New College St., Oxford 27565 (HSA Region IV)
- Jerry C. Woodard, M.D.⁹⁸ (GE) (919-291-1300)
Carolina Clinic, Wilson 27893
- 20. Committee Liaison to Department of Human Resources IV-7 (II)**
- Julian F. Keith, Jr., M.D.³⁴ (FP) *Chairman* (919-748-2251)
Bowman Gray, Dept. of Family Med., Winston-Salem 27103
- John R. Ashe, Jr., M.D.¹³ (OBG) (704-788-4151)
1054 Burrage Rd., NE, Concord 28025
- Thornton R. Cleek, M.D.⁷⁶ (FP) (919-629-2387)
379 S. Cox St., Asheboro 27203
- Elwood B. Coley, M.D.⁷⁸ (PD) (919-739-3318)
103 W. 27th St., Lumberton 28358
- E. Harvey Estes, Jr., M.D.³² (IM) (919-684-5314)
Duke Med. Ctr., Box 2914, Durham 27710
- Ronald H. Levine, M.D.⁹² (PH) (919-782-0838)
2404 White Oak Rd., Raleigh 27609
- Jesse H. Meredith, M.D.³⁴ (GS) (919-748-4278)
Bowman Gray, Dept. of Surgery, Winston-Salem 27103
- Talbot F. Parker, Jr., M.D.⁹⁶ (OBG) (919-734-3344)
2400 Wayne Mem. Dr., Ste. K, Goldsboro 27530
- William D. Rippy, M.D.¹ (FP) (919-226-4471)
1610 Vaughn Rd., Burlington 27215
- Joseph D. Russell, M.D.⁹⁸ (IM) (919-291-1300)
Carolina Clinic, Wilson 27893
- G. Earl Trevathan, Jr., M.D.⁷⁴ (PD) (919-757-2733)
ECU, Dept. of Ped., Greenville 27834
- 21. Committee to Work with N.C. Industrial Commission IV-4 (18)**
- Thomas E. Castelloe, M.D.⁹² (ORS) *Chairman* (919-781-5600)
P.O. Box 10707, Raleigh 27605
- James S. Fulghum, III, M.D.⁹² (NS) (919-832-4448)
P.O. Box 14027, Raleigh 27610
- John T. Daniel, Jr., M.D.³² (GS) (919-682-7378)
415 Dunstan St., Durham 27707
- Thomas R. Giblin, M.D.⁶⁰ (PS) (704-333-4161)
190 Randolph Rd., Ste. 300, Charlotte 28207
- Benjamin W. Goodman, M.D.¹⁸ (FP) (704-328-2231)
24 Second Ave., NE, Hickory 28601
- Ralph L. Greene, Jr., M.D.⁶⁰ (IM) (704-365-0760)
3535 Randolph Rd., Charlotte 28211
- Elzie F. Hart, Jr., M.D.¹² (OTO) (704-433-6410)
350 E. Parker Rd., Morganton 28655
- T. Tilghman Herring, M.D.⁹⁸ (OM) (919-291-7001)
Wilson Clinic, Wilson 27893
- Carl J. Hiller, M.D.²⁵ (ORS) (919-633-3256)
P.O. Drawer 1694, New Bern 28560
- Julius Howell, M.D.³⁴ (PS) (919-748-4171)
Bowman Gray, Winston-Salem 27103
- Thomas J. Koontz, M.D.³⁴ (GS) (919-765-5221)
4250 Allistair Rd., Winston-Salem 27104
- Raymond D. Kornegay, M.D.⁹² (CDS) (919-782-7900)
2800 Blue Ridge Blvd., Ste. 306, Raleigh 27607
- Paul D. Long, M.D.⁴¹ (ORS) (919-275-0927)
1505 Pembroke Rd., Greensboro 27408
- Robert E. Miller, M.D.⁶⁰ (ORS) (704-373-0544)
1822 Brunswick Ave., Charlotte 28207
- Charles L. Nance, Jr., M.D.⁶⁵ (ORS) (919-763-7344)
2001 S. 17th St., Wilmington 28401
- Richard C. Proctor, M.D.³⁴ (P) (919-748-4552)
Bowman Gray, Winston-Salem 27103
- J. Flint Rhodes, M.D.⁹² (U) (919-781-7113)
2800 Blue Ridge Blvd., Ste. 403, Raleigh 27607
- M. Brent Seagle, M.D.²⁵ (OTO) (919-638-2616)
2507 Neuse Blvd., New Bern 28560
- 22. Committee to Investigate Various Insurance Plans I-2 (3)**
- Jesse Caldwell, Jr., M.D.³⁶ (GYN) *Chairman* (704-865-0968)
1307 Park Lane, Gastonia 28052
- Timothy E. Cloninger, M.D.⁶⁰ (TR) (704-373-2272)
P.O. Box 32861, Charlotte 28232
- T. Reginald Harris, M.D.²³ (PUD) (704-482-1482)
808 Schenck St., Shelby 28150
- 23. Committee Advisory to Jail Project VI-3 (6)**
- Philip G. Nelson, M.D.⁷⁴ (P) *Chairman* (919-758-3145)
Medical Pavilion, Ste. 9, Greenville 27834
- George C. Debnam, M.D.⁹² (GP) (919-832-1667)
524 S. Blount St., Raleigh 27601
- Susan S. Goustke, M.D.⁹² (IM) (919-733-5431)
4100 Stranaver Pl., Raleigh 27612
- R. Page Hudson, Jr., M.D.³² (FOP) (919-966-2253)
Chief Med. Examiner's Office,
P.O. Box 2488, Chapel Hill 27514
- Rose Pully, M.D.⁵⁴ (FP) (919-523-2569)
318 College St., Kinston 28501
- Stephen C. Rochman, M.D.²⁶ (U) (919-485-8801)
513 Owen Dr., Fayetteville 28304
- 24. Committee on Legislation V-4 (38) (3 Consultants) (*Executive Committee)**
- *Don C. Chaplin, M.D.¹ (IM) *Chairman* (919-227-3621)
Kernodle Clinic, Burlington 27215
- *W. Grimes Byerly, Jr., M.D.¹⁸ (GS) (704-328-2231)
24 Second Ave., NE, Hickory 28601
- *Joseph W. Hooper, Jr., M.D.⁶⁵ (U) (919-763-6251)
1905 Glen Meade Rd., Wilmington 28403
- *F. Maxton Mauney, Jr., M.D.¹¹ (CDS) (704-258-1121)
257 McDowell St., Asheville 28803
- *Shahane R. Taylor, Jr., M.D.⁴¹ (OPH) (919-274-4626)
348 N. Elm St., Greensboro 27401
- Neil C. Bender, M.D.²⁵ (IM) (919-224-4591)
P.O. Box 68, Pollocksville 28573
- Frank W. Browning, M.D.²⁶ (OPH) (919-323-1800)
1629 Owen Dr., Fayetteville 28304
- Franklin S. Clark, M.D.²⁶ (GS) (919-323-2626)
3316 Kentyre Dr., Fayetteville 28303
- Elwood B. Coley, M.D.⁷⁸ (PD) (919-739-3318)
103 W. 27th St., Lumberton 28358

Thomas B. Dameron, Jr., M.D.⁹² (ORS) (919-781-5600)
P.O. Box 10707, Raleigh 27605

J. Dewey Dorsett, Jr., M.D.⁶⁰ (IM) (704-333-4175)
1851 E. Third St., Charlotte 28204

W. Otis Duck, M.D.⁵⁷ (FP) (704-689-2581)
Drawer F, Mars Hill 28754

John A. Fagg, M.D.³⁴ (PS) (919-765-8620)
2901 Maplewood Ave., Winston-Salem 27103

Susan S. Gustke, M.D.⁹² (IM) (919-733-5431)
4100 Stranaver Pl., Raleigh 27612

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Edna M. Hoffman, M.D.²⁶ (919-485-8801)
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Jack Hughes, M.D.³² (U) (Secretary) (919-286-1297)
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1713 S. Live Oak Pkwy., Wilmington 28403

Mrs. Douglas Russell (Carolyn) (Auxiliary) (919-736-2665)
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25. Committee on Maternal Health VI-4 (18) (6-yr. term) (1 Consultant)

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John W. Nance, M.D.⁸² (FP) (3rd) (1984) (919-592-6011)
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Clifford C. Byrum, M.D.⁹² (OBG) (6th) (1985) (919-782-0124)
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Mary Susan Fulghum, M.D.⁹² (OBG) (1987) (919-832-5529)
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W. Joseph May, M.D.³⁴ (OBG) (BG) (1982) (919-748-4595)
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Richard R. Nugent, M.D.³² (GPM) (1987) (919-733-2973)
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Consultant:

Mrs. Hal Rollins, Jr. (Ann) (Auxiliary Past-President)
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26. Mediation Committee (5) (Five Immediate Past-Presidents)

Jesse Caldwell, Jr., M.D.³⁶ (GYN) *Chairman* (704-865-0968)
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Frank Sohmer, M.D.³⁴ (GE) *Secretary* (919-725-8326)
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27. Committee on Medical Aspects of Sports V-5 (19) (2 Consultants)

Frank W. Clippinger, Jr., M.D.³² (ORS) *Chairman*
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Henry S. Miller, Jr., M.D.³⁴ (CD) (919-748-4467)
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28. Advisors to North Carolina Association of Medical Assistants (6)

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29. Committee on Medical Cost Containment II-3 (11) (1 Consultant)

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30. Committee on Medical Education III-7 (14)

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31. Medical-Legal Committee V-6 (9)

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32. Committee on Relationships between Medicine & Nursing II-7 (9)

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33. Committee on Membership I-3

John W. Foust, M.D.⁶⁰ (OT) *Chairman* (704-365-0711)
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(THIS COMMITTEE TO BE APPOINTED)

34. Committee on Mental Health VI-5 (23) (4 Consultants)

Wilmer C. Betts, M.D.⁹² (P) *Chairman* (919-782-0166)
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Consultants:

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Mrs. Wymene Valand (919-833-6076)
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111 Cardinal Dr., Greenville 27834

35. Committee on Nominations (10) (3-yr term)

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J. Larry Simpson, M.D.⁷⁶ (FP) (8th) (1982) (919-625-1360)
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John W. Watson, M.D.³⁹ (FP) (6th) (1984) (919-693-8126)
104 New College St., Oxford 27565

36. Committee on Occupational & Environmental Health VI-6 (15) (3 Consultants)

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John M. Dubose, M.D.⁵⁴ (TS) (919-522-1626)
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Consultants:

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UNC School of Public Health, Chapel Hill 27514
Bernard Greenberg, Ph.D. (919-966-4152)
UNC School of Public Health, Rosenau Hall, 201-H,
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37. Committee on Study of Operative Deaths II-5 (11)

Albert A. Bechtoldt, Jr., M.D.³² (AN) *Chairman*
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Benjamin F. Fortune, M.D.⁴¹ (AN) (919-272-7755)
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38. Committee on Personnel & Headquarters Operation I-4 (6)
(10 Ex Officio)

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39. Committee on Physicians' Health & Effectiveness VI-7 (22)
(2 Consultants)

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102 Country Club Circle, Clinton 28328
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40. Medical Society Consultant on Podiatry (1)

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42. Committee on Rehabilitation Medicine IV-5 (15)

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Raleigh 27602

Lillian J. Todd, RN, Nursing Consultant (919-733-6775)
Divn. Medical Assistance, 336 Fayetteville St. Mall,
Raleigh 27602

45. Committee on Traffic Safety II-6 (8) (4 Consultants)

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Mr. Grover McKay (919-733-3493)
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Mr. Douglas Wooten, (919-733-3222)
Highway Safety Branch, Epidemiology Section,
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46. ad hoc Committee to Delineate the Administrative Code for the North Carolina Medical Society I-7 (5)

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47. ad hoc Committee to Assess the Legal Services and Legal Needs of the North Carolina Medical Society (5)

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48. Committee to Investigate Grievances Relative to Medical Care of Prison Residents VI-8 (8) (1 Consultant)

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Consultant:

Rep. Wilma C. Woodard (919-772-2339)
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AND THE
NORTH CAROLINA NURSES' ASSOCIATION
(3-yr term)**

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Index to Advertisers

| | | | |
|---|---------------------------------|--|-----------------------------------|
| Air Force | 591 | Mutual of Omaha | 525 |
| Boots Pharmaceuticals, Inc. | 563, 564, 565, 566 | National Medical Enterprises, Inc. | 592 |
| Bristol-Myers Professional Products | 527, 528, 589, 590 | Ortega Pharmaceutical Company, Inc. | 584 |
| Burroughs Wellcome Company | 521 | Plyler Financial Services | 573 |
| Charlotte Chest Laboratory | 586 | Progressive Credit Corporation | 579 |
| Charlotte Treatment Center | 614 | Provident Mutual Life Insurance Co. | 587 |
| Children's Home Society of N.C. | 574 | Ramada Inn Downtown | 526 |
| Crompton, J. L. & J. Slade, Inc. | 535 | Roche Laboratories | Cover 2, 519, Cover 3, Cover 4 |
| Golden-Brabham Insurance Agency | 612 | Sequoia Group, Inc. | 523 |
| Graphic Cardiology | 533 | Upjohn Company | 571, 572 |
| Hedeco | 540 | Vyquest Development Corp. | 568 |
| Lilly, Eli & Company | 536 | Willingway, Inc. | 593 |
| Merrell Dow Pharmaceutical Inc. | 537, 538, 539, 580, 581, 582 | Winchester Surgical Supply Company, Winchester-Ritch Surgical Company | 520 |
| Mandala Center | 524 | Wyeth Laboratories | 531, 532, 576, 577 |
| Medical Mutual Insurance Company | 522 | | |

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The Official Journal of the NORTH CAROLINA MEDICAL SOCIETY □ □ □ September 1981, Vol. 42, No. 9

Original Articles

The Diminishing Mortality of Coronary Artery Bypass Grafting for Myocardial Ischemia 637

Robert N. Jones, M.D., Steven E. Curtis, Andrew S. Wechsler, M.D., W. Glenn Young, Jr., M.D., H. Newland Oldham, Jr., M.D., Walter G. Wolfe, M.D., Robert Whalen, M.D., James J. Morris, M.D., Walter L. Floyd, M.D., and David C. Sabiston, Jr., M.D.

Neonatal Cerebral Ultrasonography 642

Ewell S. Roach, M.D., Richard L. Weaver, M.D., and William T. McLean, M.D.

The Use of Psychotropics in the Prison Setting 645

James H. Carter, M.D.

Mini-Feature

Toxic Encounters of the Dangerous Kind — Antihistamine Toxicity . 648

Ronald B. Mack, M.D.

Editorials

Medicine and the Media 653

Editorial Book Review 653

North Carolina Division of Health Services

Conjoint Report to North Carolina Medical Society 656

Ron Levine, M.D., M.P.H.

National Institutes of Health

Consensus Development Conference Statement. CEA (Carcinoembryonic Antigen): Its Role as a Marker in the Management of Cancer 660

Correspondence

Acetaminophen Poisoning 665

Shirley K. Osterhout, M.D., and Ronald B. Mack, M.D.

Camphor Poisoning 666

Shirley K. Osterhout, M.D.

Bulletin Board

New Members of the State Society 667

What? When? Where? 667

Auxiliary to the North Carolina Medical Society 669

News Notes from the University of North Carolina-Chapel Hill School of Medicine and North Carolina Memorial Hospital 673

News Notes from the East Carolina University School of Medicine . . 680

News Notes from the Bowman Gray School of Medicine of Wake Forest University 682

Classified Ads 685

Index to Advertisers 686

1981 Committee Conclave: Sept. 23-27, Southern Pines

1982 Conference for Medical Leadership: February 5-6, Winston-Salem

1982 Annual Sessions: May 6-9, Pinehurst

Feelings vs

Some people feel that I am misused and overused and that I'm prescribed too often and for too many kinds of problems.

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Facts

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The effectiveness of Valium (diazepam/Roche) in long-term use, that is, more than 4 months, has not been assessed by systematic clinical studies. The physician should periodically reassess the usefulness of the drug for the individual patient.

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Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication, abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms similar to those with barbiturates and alcohol have been observed with abrupt discontinuation, usually limited to extended use and excessive doses. Infrequently, milder withdrawal symptoms have been reported following abrupt discontinuation of benzodiazepines after continuous use, generally at higher therapeutic levels, for at least several months. After extended therapy, gradually taper dosage. Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence.

Usage in Pregnancy: Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed, drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation. The clearance of Valium and certain other benzodiazepines can be delayed in association with Tagamet (cimetidine) administration. The clinical significance of this is unclear.

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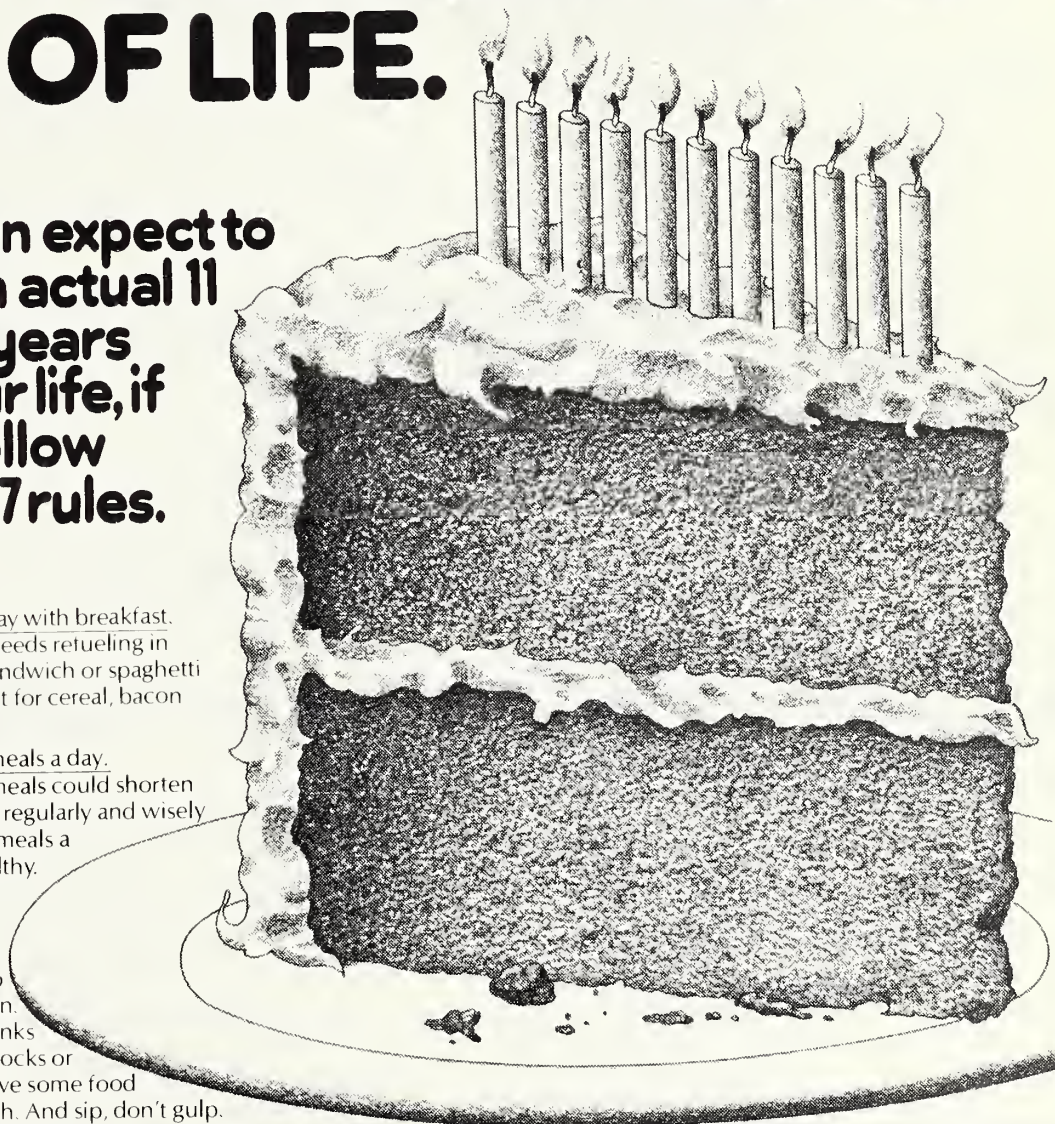
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“Possibly” effective, for the treatment of pain accompanied by tension and/or anxiety in patients with musculoskeletal disease or tension headache.

Final classification of the less-than-effective indications requires further investigation.

The effectiveness of Equagesic in long-term use, i.e. more than four months, has not been assessed by systematic clinical studies. The physician should periodically reassess usefulness of the drug for the individual patient.

CONTRAINDICATIONS: Equagesic should not be given to individuals with a history of sensitivity or severe intolerance to aspirin, meprobamate, or ethoheptazine citrate.

WARNINGS: Careful supervision of dose and amounts prescribed for patients is advised, especially with those patients with known propensity for taking excessive quantities of drugs. Excessive and prolonged use in susceptible persons, e.g., alcoholics, former addicts, and other severe psychoneurotic, has been reported to result in dependence on or habituation to the drug. Where excessive dosage has continued for weeks or months, dosage should be reduced gradually rather than abruptly stopped, since withdrawal of a “crutch” may precipitate withdrawal reaction of greater proportions than that for which the drug was originally prescribed. Abrupt discontinuance of doses in excess of the recommended dose has resulted in some cases in the occurrence of epileptiform seizures.

Special care should be taken to warn patients taking meprobamate that tolerance to alcohol may be lowered with resultant slowing of reaction time and impairment of judgment and coordination.

USAGE IN PREGNANCY AND LACTATION: An increased risk of congenital malformations associated with the use

of minor tranquilizers (meprobamate, chlordiazepoxide, and diazepam) during the first trimester of pregnancy has been suggested in several studies. Because use of these drugs is rarely a matter of urgency, their use during this period should almost always be avoided. The possibility that a woman of child-bearing potential may be pregnant at the time of institution of therapy should be considered. Patients should be advised that if they become pregnant during therapy or intend to become pregnant they should communicate with their physicians about the desirability of discontinuing the drug. Meprobamate passes the placental barrier. It is present both in umbilical-cord blood at or near maternal plasma levels and in breast milk of lactating mothers at concentrations two to four times that of maternal plasma. When use of meprobamate is contemplated in breast-feeding patients, the drug's higher concentration in breast milk as compared to maternal plasma levels should be considered.

Preparations containing aspirin should be kept out of the reach of children. Equagesic is not recommended for patients 12 years of age and under.

PRECAUTIONS: Should drowsiness, ataxia, or visual disturbance occur, the dose should be reduced. If symptoms continue, patients should not operate a motor vehicle or any dangerous machinery. Suicidal attempts with meprobamate have resulted in coma, shock, vasomotor and respiratory collapse, and anuria. Very few suicidal attempts were fatal, although some patients ingested very large amounts of the drug (20 to 40 gm). These doses are much greater than recommended. The drug should be given cautiously, and in small amounts, to patients who have suicidal tendencies. In cases where excessive doses have been taken, sleep ensues rapidly and blood pressure, pulse, and respiratory rates are reduced to basal levels. Hyperventilation has been reported occasionally. Any drug remaining in the stomach should be removed and symptomatic treatment given. Should respiration become very shallow and slow, CNS stimulants, e.g., caffeine, Meclizol, or amphet-

mine, may be cautiously administered. If severe hypotension develops, pressor amines should be used parenterally to restore blood pressure to normal levels.

ADVERSE REACTIONS: A small percentage of patients may experience nausea with or without vomiting and epigastric distress. Dizziness occurs rarely when meprobamate and ethoheptazine citrate with aspirin is administered in recommended dosage. The meprobamate may cause drowsiness but, as a rule, this disappears as therapy is continued. Should drowsiness persist and be associated with ataxia, this symptom can usually be controlled by decreasing the dose, but occasionally it may be desirable to administer central stimulants such as amphetamine or mephentermine sulfate concomitantly to control drowsiness.

A clearly related side effect to the administration of meprobamate is the rare occurrence of allergic or idiosyncratic reactions. This response develops, as a rule, in patients who have had only 1-4 doses of meprobamate and have not had a previous contact with the drug. Previous history of allergy may or may not be related to the incidence of reactions.

Mild reactions are characterized by an itchy urticarial or erythematous, maculopapular rash which may be generalized or confined to the groin. Acute nonthrombocytopenic purpura with cutaneous petechiae, ecchymoses, peripheral edema, and fever have also been reported.

More severe cases, observed only very rarely, may also have other allergic responses, including fever, fainting spells, angioneurotic edema, bronchial spasms, hypotensive crises (1 fatal case), anaphylaxis, stomatitis and proctitis (1 case), and hyperthermia. Treatment should be symptomatic such as administration of epinephrine, antihistamine, and possibly hydrocortisone. Meprobamate should be stopped, and institution of therapy should not be attempted.

Rare cases have been reported where patients receiving meprobamate suffered from aplastic anemia (1 fatal case), thrombocytopenic purpura, agranulocytosis, and hemolytic anemia. In nearly every instance reported, other toxic agents known to have caused these conditions have been associated with meprobamate. A few cases of leukopenia during

continuous administration of meprobamate are reported, most of these returned to normal without discontinuation of the drug.

Impairment of accommodation and visual acuity has been reported rarely.

OVERDOSE: Two instances of accidental or intentional significant overdose with ethoheptazine citrate combined with aspirin have been reported. These were accompanied by symptoms of CNS depression, including drowsiness and light-headedness, with uneventful recovery. However, on the basis of pharmacological data, it may be anticipated that CNS stimulation could occur. Other anticipated symptoms would include nausea and vomiting. Appropriate therapy of signs and symptoms as they appear is the only recommendation possible at this time. Overdose with ethoheptazine combined with aspirin would probably produce the usual symptoms and signs of salicylate intoxication. Observation and treatment should include induced vomiting or gastric lavage, specific parenteral electrolyte therapy for ketoacidosis and dehydration, watching for evidence of hemorrhagic manifestations due to hypoprothrombinemia which, if it occurs, usually requires whole-blood transfusions.

DESCRIPTION: Each Equagesic tablet contains 150 mg meprobamate, 75 mg ethoheptazine citrate and 250 mg aspirin.

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*This drug has been evaluated as possibly effective for this indication.

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Down with pain

Step up to reliable relief

for mild to moderate pain

Wygesic[®]

(65 mg propoxyphene HCl and 650 mg acetaminophen) Wyeth

More than twice as much acetaminophen as the leading combination plus a full therapeutic dose of propoxyphene...all in a convenient, economical single tablet.

WYGESIC—Abbreviated Summary

INDICATION: For the relief of mild-to-moderate pain.

CONTRAINDICATION: Hypersensitivity to propoxyphene or to acetaminophen.

WARNINGS: CNS ADDITIVE EFFECTS AND OVER-

DOSAGE: Propoxyphene in combination with alcohol

tranquilizers, sedative-hypnotics, or other CNS depressants has an additive depressant effect. Patients

taking this drug should be advised of the additive

effect and warned not to exceed the dosage recom-

mended. Toxic effects and fatalities have occurred

following overdoses of propoxyphene alone or in

combination with other CNS depressants. Most of

these patients had histories of emotional distur-

bances or suicidal ideation or attempts, as well as

misuse of tranquilizers, alcohol, or other CNS-active

drugs. Caution should be exercised in prescribing

large amounts of propoxyphene for such patients

(see Management of Overdosage).

DRUG DEPENDENCE: Propoxyphene can produce

drug dependence characterized by psychic dependence

and less frequently physical dependence and

tolerance. It will only partially suppress the with-

drawal syndrome in individuals physically dependent

on morphine or other narcotics. The abuse liability of

propoxyphene is qualitatively similar to codeine, al-

though quantitatively less, and propoxyphene should

be prescribed with the same degree of caution ap-

propriate to the use of codeine.

USAGE IN AMBULATORY PATIENTS: Propoxy-

phene may impair the mental and/or physical abilities

required for potentially hazardous tasks, e.g. driving

a car or operating machinery. Patients should be

cautioned accordingly.

USAGE IN PREGNANCY: Safe use in pregnancy

has not been established relative to possible ad-

verse effects on fetal development. INSTANCES OF

WITHDRAWAL SYMPTOMS IN THE NEONATE

HAVE BEEN REPORTED FOLLOWING USAGE

DURING PREGNANCY. Therefore, propoxyphene

should not be used in pregnant women unless, in the

judgement of the physician, the potential benefits outweigh the possible hazards.

USAGE IN CHILDREN: Propoxyphene is not rec-

ommended for children because documented clinical

experience has been insufficient to establish safety

and a suitable dosage regimen in the pediatric group.

PRECAUTIONS: Confusion, anxiety, and tremors

have been reported in a few patients receiving pro-

poxyphene concomitantly with orphenadrine. The CNS

depressant effect of propoxyphene may be additive

with other CNS depressants, including alcohol.

ADVERSE REACTIONS: The most frequent ad-

verse reactions are dizziness, sedation, nausea, and

vomiting. These seem more prominent in ambulatory

than in nonambulatory patients. Some of these re-

actions may be alleviated if the patient lies down.

Other adverse reactions include constipation, ab-

dominal pain, skin rashes, light-headedness, head-

ache, weakness, euphoria, dysphoria, and minor

visual disturbances. The chronic ingestion of propoxy-

phene in doses over 800 mg per day has caused

toxic psychoses and convulsions. Cases of liver dys-

function have been reported.

DRUG INTERACTIONS: Propoxyphene in com-

bination with alcohol, tranquilizers, sedative-hypnot-

ics, and other CNS depressants has an additive

depressant effect. Patients taking this drug should

be advised of the additive effect and warned not to

exceed the dosage recommended (see Warnings).

Confusion, anxiety, and tremors have been reported

in a few patients receiving propoxyphene concom-

itantly with orphenadrine.

MANAGEMENT OF OVERDOSAGE: SYMPTOMS

The manifestations of serious overdosage with pro-

poxyphene are similar to those of narcotic overdos-

age and include respiratory depression (a decrease

in respiratory rate and/or tidal volume, Cheyne-

Stokes respiration, cyanosis), extreme somnolence

progressing to stupor or coma, pupillary constriction,

and circulatory collapse. In addition to these char-

acteristics, which are reversed by narcotic antago-

nists such as naloxone, there may be other effects.

Overdoses of propoxyphene can cause delay of car-

dial conduction as well as focal or generalized con-

vulsions, a prominent feature in most cases of severe

poisoning. Cardiac arrhythmias and pulmonary edema

have occasionally been reported, and apnea, car-

dial arrest, and death have occurred.

Symptoms of massive overdosage with acetamini-

phol may include nausea, vomiting, anorexia, and

abdominal pain, beginning shortly after ingestion and

lasting for 12 to 24 hours. However, early recognition

may be difficult since early symptoms may be mild

and nonspecific. Evidence of liver damage is usually

delayed. After the initial symptoms the patient may

feel less ill, however, laboratory determinations are

likely to show a rapid rise in liver enzymes and bil-

irubin. In case of serious hepatotoxicity, jaundice, co-

agulation defects, hypoglycemia, encephalopathy,

coma, and death may follow. Renal failure due to

tubular necrosis, and myocardial pathology have also been

reported.

Ingestion of 10 grams or more of acetaminophen

may produce hepatotoxicity. A 13-gram dose has re-

portedly been fatal.

TREATMENT: Primary attention should be given to

the reestablishment of adequate respiratory ex-

change through provision of a patent airway and in-

stitution of assisted or controlled ventilation. The

narcotic antagonists naloxone, nalorphine, and lev-

allorphan, are specific antidotes against the respira-

tory depression produced by propoxyphene. An

appropriate dose of one of these antagonists should

be administered preferably I.V., simultaneously with ef-

forts at respiratory resuscitation and the antagonist

should be repeated as necessary until the patient's

condition remains satisfactory. In addition to a nar-

cotic antagonist, the patient may require careful titra-

tion with an anticonvulsant to control seizures.

Analeptic drugs (e.g. caffeine or amphetamine) should

not be used because of their tendency to precipitate

convulsions.

Oxygen IV fluids, vasopressors and other suppor-

tive measures should be used as indicated. Gastric

lavage may be helpful. Activated charcoal can ab-

sorb a significant amount of ingested propoxyphene.

Dialysis is of little value in poisoning by propoxy-

phene alone. Acetaminophen is rapidly absorbed

and efforts to remove the drug from the body should

not be delayed. Copious gastric lavage and/or indu-

ction of emesis may be indicated. Activated charcoal

is probably ineffective unless administered almost

immediately after acetaminophen ingestion. Neither

forced diuresis nor hemodialysis appears to be ef-

fective in removing acetaminophen. Since acetami-

nophen in overdose may have an antidiuretic effect

and may produce renal damage, administration of

fluids should be carefully monitored to avoid over-

load. It has been reported that mercaptamine (cys-

teamine) or other thiol compounds may protect against

liver damage if given soon after overdosage (8-10

hours). N-acetylcysteine is under investigation as a

less toxic alternative to mercaptamine, which may

cause anorexia, nausea, vomiting, and drowsiness.

Appropriate literature should be consulted for further

information (JAMA 237 2406-2407 1977).

Clinical and laboratory evidence of hepatotoxicity may

be delayed up to one week. Acetaminophen plasma

levels and half-life may be useful in assessing the

likelihood of hepatotoxicity. Serial hepatic enzyme

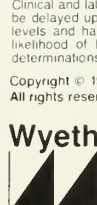
determinations are also recommended.

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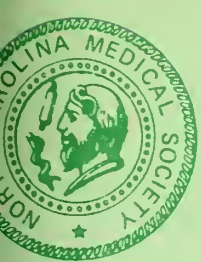
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111



PRESIDENT'S NEWSLETTER

NORTH CAROLINA MEDICAL SOCIETY

NO. 4

SEPTEMBER 1981

Dear Colleagues:

Finally on July 29, 1981, Senate and House Conferees reached an agreement on the health provisions of the Reconciliation Bill. At last, the states know what federal funds can be expected for each Medicaid Program and the major regulatory changes in both the Medicaid and Medicare Programs.

MEDICARE PART B

- *1. DROPPED was a provision mandating the calculation of statewide median charges for physician services. This figure was to be used to limit increases in physician reimbursement.
2. No part of beneficiaries' expenses can be "carry over" expenses from one year to meet the deductible the next year.
3. Medicare Part B deductible will be increased from \$60 to \$75.
4. Separate prospective uniform reimbursement rates for renal dialysis services will be established for free-standing facilities and hospitals.
5. A civil monetary penalty of \$2,000 can be imposed for fraudulent claims under Medicare or Medicaid.
6. Occupational therapy will not be recognized as a sole criteria for qualifying for home health services.
7. Medicare will pay for pneumococcal vaccine.
- *8. "In establishing reasonable charge limitations for hospital outpatient services, the limits must be reasonably related to the reasonable charges for similar services provided in a physician's office."

MEDICAID

A target rate of expenditures will be set for FY82 at 109% of FY81 expenditures, indexed in the following two years to the medical component of the CPI. Federal reimbursement to Medicaid Programs will be reduced by 3% in FY82, 4% in FY83 and 4.5% in FY84. States will receive federal dollars of at least the target rate.

1. Freedom of choice was NOT eliminated.
2. States MAY reimburse hospitals at less than the Medicare rate.
3. The EPSDT penalty was eliminated.

4. States will NOT be required to provide Medicaid coverage to persons over 21 who would be eligible for AFDC if they were in school.
5. Payment will be made for non-medical services (except for room and board) if such services would avoid placement of a recipient in a facility and does not increase total long-term care costs.
6. Federal dollars will NOT pay for the costs of tests in hospitals unless they are SPECIFICALLY ORDERED by the attending physicians or other responsible practitioner.
7. States will NOT be required to provide services to all groups of Medically Needy. A state may offer whatever mix of services it determines is appropriate for each group of needy.

In the meantime, uncontrollable Medicaid costs increased from \$16.48 billion to \$17.1 billion in FY1981. Conservative estimates for FY1982 are \$18.74 billion. Those of us, who are older, remember that organized medicine repeatedly warned the Feds of this probability as early as the late 1940's. Nobody listened!

The General Accounting Office (GAO) is highly critical of the Health Planning Program. GAO reported that "despite major commitments of money (\$750 million) and community effort, health systems plans (HSP) were inadequately developed and did not represent a good framework for making needed changes in the health care system". They further stated that the HSP's were generally "totally unusable," a waste of tremendous amounts of money; and, if done at all, should be done at the state level.

In the July 1981 MEDICAID BULLETIN, we were notified that:

"Medicaid payments made to practitioners on or after August 1, 1981, will be at 50% of the co-insurance amount and 90% of the deductible amount for Medicare crossover claims."

This action will considerably reduce Medicaid payments to physicians who care for Medicare/Medicaid "crossover" patients. Consequently, I asked Sarah T. Morrow, M.D., to assist us by obtaining an explanation for this action in the General Assembly. At Dr. Morrow's request, Mr. John A. Williams, Jr., State Budget Officer, responded that the General Assembly had taken this action "to make all Medicaid reimbursement procedures consistent by mandating that Medicare 'crossover' claims be paid at Medicaid rates. Unfortunately, this had the effect of further reducing payments made to physicians." Mr. Williams further stated; "We regret that this has occurred, and we want to assure you that we will continue working to address your concerns." Well, we ARE concerned!

After consultation with President-Elect Marshall S. Redding and the Chairman of the Committee on Social Services, Joseph D. Russell, M.D., I responded to Mr. Williams' letter (see on page 4) in an effort to actively request the support of the Administration in seeking relief from the implementation of this most recent reduction in reimbursement for physician services in the North Carolina Medicaid Program. Joe Russell and I plan to visit with Dr. Morrow and Barbara D. Matula, Director of the North Carolina Division of Medical Assistance, to further voice the concern of the North Carolina Medical Society in regard to this abrupt ruling which will further penalize physicians who are providing medical care for elderly Medicaid patients. You may be sure that this matter will be a major topic of discussion for the Committee on Social Services Programs at its meeting on Thursday, September 24, 2:00-5:00 p.m. at the Mid Pines Club. PLEASE plan to be at the

Committee Conclave in Southern Pines, September 23-26, 1981---whether or not you serve on a committee! Remember---you are the North Carolina Medical Society! Try to be present and to be heard on all these grave matters which so greatly affect the practice of medicine and the health care of all North Carolinians.

To my great surprise, I learned that the PRESIDENT'S NEWSLETTER is circulated to other state societies. Robert W. Clark, M.D., President of the Nevada State Medical Association not only read the last issue but was good enough to write me a letter of condolence. Dr. Clark wrote:

"I appreciated receiving a copy, although it was very depressing, for all of the problems stated in your newsletter that you are having are virtually identical to my newsletter, dated two months earlier, except for the name of the state. I wish I could offer encouragement, and I hope that somebody has a victory someplace, at least on one of these issues."

Thank you, Dr. Clark. As the "ol' feller" said "misery loves company".

I hope to see you all in Southern Pines where we shall re-group, fling out the banner, and march forward, together! There is NO retreat from the problems which face medicine!

My best to you and your family,



Josephine E. Newell, M.D.
President

C O P Y

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C O P Y

August 24, 1981

John A. Williams, Jr., State Budget Officer
Office of State Budget and Management
116 W. Jones Street
Raleigh, North Carolina 27611

Dear Mr. Williams:

Thank you for your letter of August 21, 1981, in response to my request for an explanation of recent further reduction in reimbursement for physician services in the North Carolina Medicaid Program. Although I understand that this unfortunate decision was made in the General Assembly. I must ask your assistance in seeking relief from this most recent action which will surely discourage practicing physicians from participation in the Medicaid Program.

As the Division of Medical Assistance must be well aware, physician reimbursement for Medicaid services barely covers office overhead costs and, often, is less than office overhead to the physician. For the past two years, I have worked closely in the Medicaid Program and have seen many of the inequities in reimbursement. We, the physicians of North Carolina, do understand the tremendous responsibility of administration which Medicaid imposes, as well as the gigantic tax burden it has become for all taxpayers. Every member of the North Carolina Medical Society is, also, a taxpaying North Carolina citizen.

Because of the burden of overwhelming paperwork and regulations, as well as financial loss for services rendered, it has been difficult to enroll physicians in the Medicaid Program. Since this most recent reduction will affect only Medicare/Medicaid crossovers; it may well discourage physicians from geriatric practice and be reflected as fewer physicians who can dedicate their practice to health care of the elderly. Inflation of office costs coupled with further reduced reimbursement for medical services will make it impossible for newly established physicians to participate in the Medicaid Program.

During the past months, the North Carolina Medical Society has worked closely with Barbara D. Matula, Director of the Division of Medical Assistance, and her staff in trying to face cuts in the Medicaid budget, scheduled for October 1, 1981. We understand the necessity for cost containment in this and all other areas of health care. We want to be involved in a solution to the problem, and we shall cooperate in every way possible. However, physicians cannot accept, with grace, this reduction in reimbursement which will inflate the costs of participation in the Medicaid Program.

I shall appreciate it greatly if you will advise how the North Carolina Medical Society can obtain relief from the implementation of the recent reduction in reimbursement for care of the elderly, through alteration of method of payment for Medicare/Medicaid "crossover" claims. We are grateful for your consideration and advice.

Sincerely,



Josephine E. Newell, M.D.
President

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Contraindications:

Do not use HEMTrex/HC Topical Medicated Foam or HEMTrex/HC Rectal Suppositories in patients with tuberculosis of the skin or with a history of sensitivity to any of the components in the preparation. Prolonged use during pregnancy is contraindicated (See Precautions).

Do not use HEMTrex/HC Rectal Suppositories in patients with heart disease, high blood pressure, hyperthyroidism, diabetes, difficulty in urination, or who are taking tranquilizers or nerve pills.

Warnings:

For HEMTrex/HC Topical Medicated Foam: CONTENTS UNDER PRESSURE. DO NOT PUNCTURE OR INCINERATE. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. Do not insert any part of the aerosol container into the anus. Keep this and all medications out of the reach of children (See Precautions).

Precautions:

If irritation develops, the product should be discontinued and appropriate therapy initiated. In the presence of an infection resistant to treatment with antifungal or antibacterial agents, discontinue the use of the product until the infection has been controlled.

Pregnancy Category C—Hydrocortisone has been shown to be teratogenic in mice, rats, rabbits and hamsters when given in doses therapeutically equivalent to dosages used clinically in man. Those studies did not, however, evaluate the effect of topically applied drug.

There are no adequate and well controlled studies in pregnant women. Hydrocortisone should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus. Infants born of mothers who have received substantial doses of corticosteroids during pregnancy should be carefully observed for signs of hypoadrenalism.

Topical steroids should not be used extensively on pregnant patients, in large amounts, or for prolonged periods of time.

Adverse Reactions:

The following localized adverse effects, although rare, have been reported with corticosteroids, especially under occlusive conditions: burning, itching, irritation, dryness, folliculitis, hypertrichosis, acneiform eruptions, hypopigmentations, allergic contact dermatitis, maceration of the skin, secondary infection, skin atrophy and miliaria.

Dosage and Administration:

HEMTrex/HC Rectal Suppositories: Use one suppository at bedtime and one in the morning. Do not use for more than six days unless directed by a physician.

HEMTrex/HC Topical Medicated Foam: Use before and after each bowel movement making certain to leave a protective coating after cleansing. Repeat when necessary to maintain comfort, up to three or four times daily. Do not use for more than six days unless directed by a physician.

How Supplied:

HEMTrex/HC Rectal Suppositories are available in boxes of 12.

HEMTrex/HC Topical Medicated Foam is available in 1.4 oz (40 gm) canisters which, depending on use, contain between 30 and 40 foam applications. *Store at room temperature—not over 120°F.*

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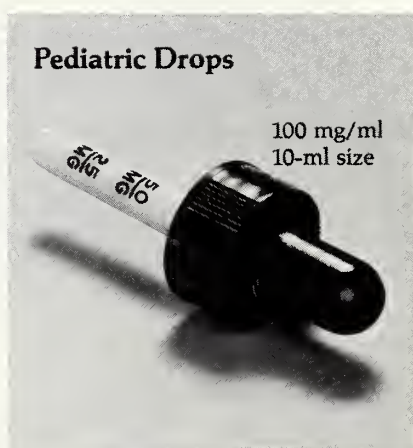
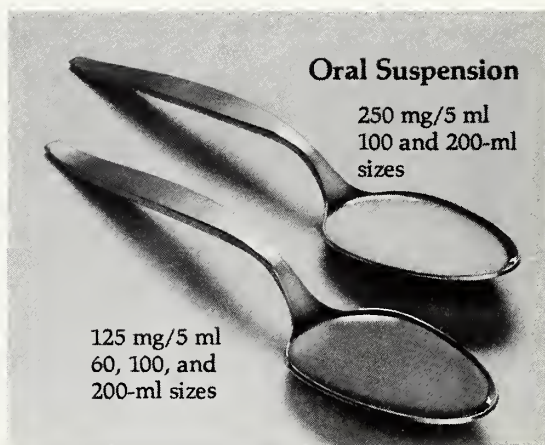
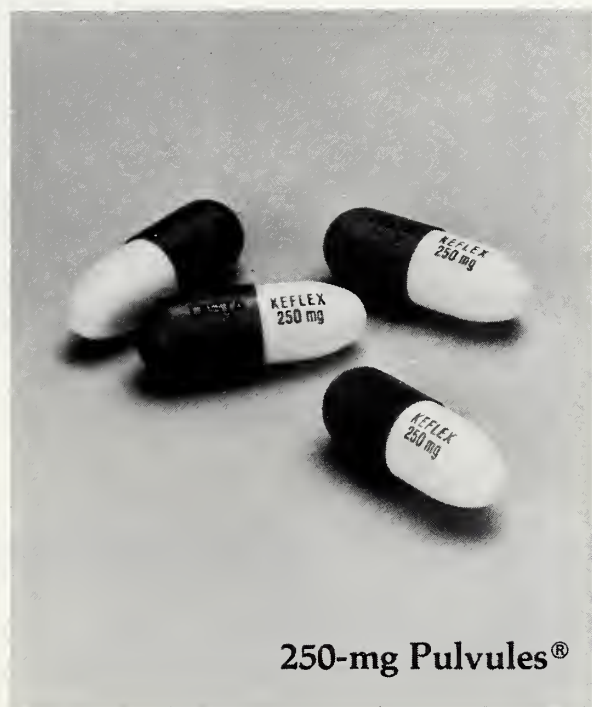
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Labelling Prepared January 1981



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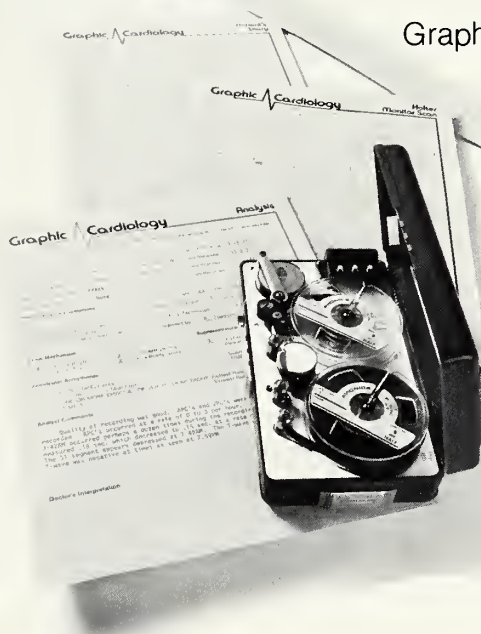
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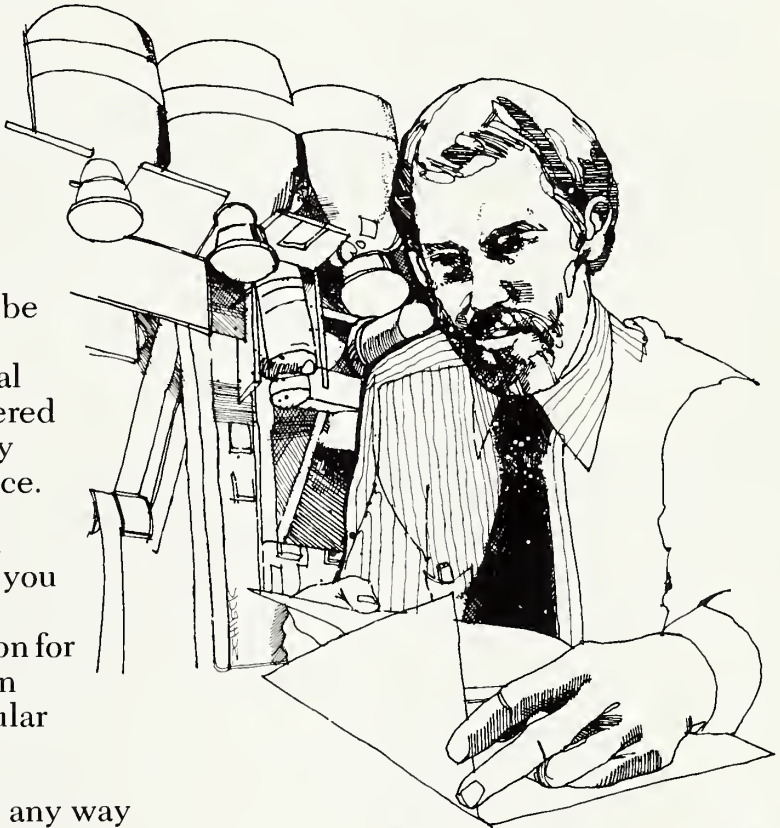
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INDICATIONS AND USAGE
For the prevention and treatment of nocturnal recumbency leg muscle cramps

CONTRAINDICATIONS

Quinamm may cause fetal harm when administered to a pregnant woman. Congenital malformations in the human have been reported with the use of quinine, primarily with large doses (up to 30 g) for attempted abortion. In about half of these reports the malformation was deafness related to auditory nerve hypoplasia. Among the other abnormalities reported were limb anomalies, visceral defects, and visual changes. In animal tests, teratogenic effects were found in rabbits and guinea pigs and were absent in mice, rats, dogs, and monkeys. Quinamm is contraindicated in women who are or may become pregnant. If this drug is used during pregnancy, or if the patient becomes pregnant while taking this drug, the patient should be apprised of the potential hazard to the fetus because of the quinine content. Quinamm is contraindicated in patients with known quinine hypersensitivity and in patients with glucose-6-phosphate dehydrogenase (G-6-PD) deficiency. Since thrombocytopenic purpura may follow the administration of quinine in highly sensitive patients, a history of this occurrence associated with previous quinine ingestion contraindicates its further use. Recovery usually occurs following withdrawal of the medication and appropriate therapy. This drug should not be used in patients with tinnitus or optic neuritis or in patients with a history of blackwater fever.

WARNINGS

Repeated doses or overdosage of quinine in some individuals may precipitate a variety of symptoms referred to as cinchonism. Such symptoms, in the mildest form, include ringing in the ears, headache, nausea, and slightly disturbed vision; however, when medication is continued or after large single doses, symptoms also involve the gastrointestinal tract, the nervous and cardiovascular systems, and the skin. Hemolysis (with the potential for hemolytic anemia) has been associated with G-6-PD deficiency in patients taking quinine. Quinamm should be stopped immediately if evidence of hemolysis appears. If symptoms occur, drug should be discontinued and supportive measures instituted. In case of overdosage, see OVERDOSAGE section of prescribing information.

PRECAUTIONS

General
Quinamm should be discontinued if there is any evidence of hypersensitivity (see CONTRAINDICATIONS). Cutaneous flushing, pruritus, skin rashes, fever, epigastric distress, dyspnea, ringing in the ears, and visual impairment are the usual expressions of hypersensitivity, particularly if only small doses of quinine

have been taken. Extreme flushing of the skin accompanied by intense, generalized pruritus is the most common form. Hemoglobinuria and asthma from quinine are rare types of idiosyncrasy.

In patients with atrial fibrillation, the administration of quinine requires the same precautions as those for quinidine. (See **Drug Interactions**.)

Drug Interactions

Increased plasma levels of digoxin and digitoxin have been demonstrated in individuals after concomitant quinidine administration. Because of possible similar effects from use of quinine, it is recommended that plasma levels for digoxin and digitoxin be determined for those individuals taking these drugs and Quinamm concomitantly.

Concurrent use of aluminum-containing antacids may delay or decrease absorption of quinine.

Cinchona alkaloids, including quinine, have the potential to depress the hepatic enzyme system that synthesizes the vitamin K-dependent factors. The resulting hypoprothrombinemic effect may enhance the action of warfarin and other oral anticoagulants.

The effects of neuromuscular blocking agents (particularly pancuronium, succinylcholine, and tubocurarine) may be potentiated with quinine, and result in respiratory difficulties.

Urinary alkalinizers (such as acetazolamide and sodium bicarbonate) may increase quinine blood levels with potential for toxicity.

Drug Laboratory Interactions

Quinine may produce an elevated value for urinary 17-ketogenic steroids when the Zimmerman method is used.

Carcinogenesis, Mutagenesis, Impairment of Fertility

A study of quinine sulfate administered in drinking water (0.1%) to rats for periods up to 20 months showed no evidence of neoplastic changes. Mutation studies of quinine (dihydrochloride) in male and female mice gave negative results by the micronucleus test. Intraperitoneal injections (0.5 mM/kg.) were given twice, 24 hours apart. Direct *Salmonella typhimurium* tests were negative, when mammalian liver homogenate was added, positive results were found.

No information relating to the effect of quinine upon fertility in animal or in man has been found.

Pregnancy

Category X. See **CONTRAINDICATIONS**.

Nonteratogenic Effects

Because quinine crosses the placenta in humans, the potential for fetal effects is present. Stillbirths in mothers taking quinine have been reported in which no obvious cause for the fetal deaths was shown. Quinine in toxic amounts has been associated with abortion. Whether this action is always due to direct effect on the uterus is questionable.

Nursing Mothers

Caution should be exercised when Quinamm is given to nursing women because quinine is excreted in breast milk (in small amounts).

ADVERSE REACTIONS

The following adverse reactions have been reported with Quinamm in therapeutic or excessive dosage. (Individual or multiple symptoms may represent cinchonism or hypersensitivity.)

Hematologic: acute hemolysis, thrombocytopenic purpura, agranulocytosis, hypoprothrombinemia.

CNS: visual disturbances, including blurred vision with scotomata, photophobia, diplopia, diminished visual fields and disturbed color vision, tinnitus, deafness, and vertigo, headache, nausea, vomiting, fever, apprehension, restlessness, confusion, and syncope.

Dermatologic/allergic: cutaneous rashes (urticarial, the most frequent type of allergic reaction, papular, or scarlatin), pruritus, flushing of the skin, sweating, occasional edema of the face.

Respiratory: asthmatic symptoms.

Cardiovascular: anginal symptoms.

Gastrointestinal: nausea and vomiting (may be CNS-related), epigastric pain.

DRUG ABUSE AND DEPENDENCE

Tolerance, abuse, or dependence with Quinamm has not been reported.

OVERDOSAGE

See prescribing information for a discussion on symptoms and treatment of overdose.

DOSAGE AND ADMINISTRATION

1 tablet upon retiring. If needed, 2 tablets may be taken nightly—1 following the evening meal and 1 upon retiring.

After several consecutive nights in which recumbency leg cramps do not occur, Quinamm may be discontinued in order to determine whether continued therapy is needed.

Product Information as of October, 1980

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WARNING: Because of the potential hazard of nephrotoxicity and ototoxicity due to neomycin, care should be exercised when using this product in treating extensive burns, trophic ulceration and other extensive conditions where absorption of neomycin is possible. In burns where more than 20 percent of the body surface is affected, especially if the patient has impaired renal function or is receiving other aminoglycoside antibiotics concurrently, not more than one application a day is recommended.

When using neomycin-containing products to control secondary infection in the chronic dermatoses, it should be borne in mind that the skin is more liable to become sensitized to many substances, including neomycin. The manifestation of sensitization to neomycin is usually a low grade reddening with swelling, dry scaling and itching; it may be manifest simply as a failure to heal. During long-term use of neomycin-containing products, periodic examination for such signs is advisable and the patient should be told to discontinue the product if they are observed. These symptoms regress quickly on withdrawing the medication. Neomycin-containing applications should be avoided for that patient thereafter.

PRECAUTIONS: As with other antibacterial preparations, prolonged use may result in overgrowth of susceptible organisms, including fungi. Appropriate measures should be taken if this occurs.

ADVERSE REACTIONS: Neomycin is a not uncommon cutaneous sensitizer. Articles in the current literature indicate an increase in the prevalence of persons allergic to neomycin. Ototoxicity and nephrotoxicity have been reported (see Warning section). Complete literature available on request from Professional Services Dept. PML.



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The Diminishing Mortality of Coronary Artery Bypass Grafting For Myocardial Ischemia

Robert N. Jones, M.D., Steven E. Curtis, Andrew S. Wechsler, M.D., W. Glenn Young, Jr., M.D., H. Newland Oldham, Jr., M.D., Walter G. Wolfe, M.D., Robert Whalen, M.D., James J. Morris, M.D., Walter L. Floyd, M.D., and David C. Sabiston, Jr., M.D.

ABSTRACT The operative mortality associated with coronary artery bypass procedures has declined impressively in recent years. Two groups of patients undergoing coronary grafting at the Duke University Medical Center were analyzed retrospectively: Group I was comprised of 200 consecutive patients operated upon between 1974 and 1976, and Group II consisted of 200 consecutive patients undergoing coronary grafting between 1978 and 1979. Since 1976 the operative mortality for this procedure has diminished appreciably, and for the patients in Group II was 0.5%. Reasons for the decline in operative mortality include improved techniques in myocardial preservation, more extensive grafting of involved coronary arteries, improved anesthetic management, and advances in surgical techniques and postoperative care.

INTRODUCTION

NEARLY two decades have passed since the first attempts to directly revascularize the myocardium of patients with ischemic coronary artery disease.¹⁻⁴ Since then, coronary artery bypass grafting (CABG) has emerged both as an

effective modality for relieving the symptoms of ischemic heart disease^{5,6} and as a method of improving survival in certain groups with coronary disease.⁷⁻⁹ The number of patients to undergo such procedures has increased each year, and more than 100,000 persons in the United States alone are expected to receive coronary grafts this year.

A significant factor in the improved results of CABG has been a clearer understanding of perioperative ischemic myocardial injury. In the earlier experience with CABG, the obvious technical advantage of operating on a motionless heart in a bloodless operative field was recognized. It is now well understood, however, that *normothermic ischemic arrest* has a very unfavorable effect on cardiac metabolism. Recognition of this fact led clinical and experimental investigators throughout the world to seek improved techniques for maintaining the metabolic integrity of the heart during intraoperative cardiac arrest.¹⁰ The recent, nearly universal acceptance of cold potassium arrest to protect the ischemic myocardium attests to the influence of these investigators.

Cold potassium cardioplegia was introduced at Duke University Medical Center as an adjunct to

CABG in 1976. Since then we have noted a gratifying decline in the operative mortality for myocardial revascularization procedures. While improved myocardial protection has contributed to this decline, other significant factors have been involved as well. A greater understanding of the various physiologic principles which govern the energy needs of the heart, particularly in the presence of diseased vessels, has led to a broader approach that includes improvements in anesthetic management and in the techniques of cardiopulmonary bypass. The purpose of this study is to compare the results of current techniques used in CABG in one institution with the results of approaches used before the introduction of cold potassium cardioplegia and the other techniques in current use.

MATERIAL AND METHODS

Clinical Data

The data were obtained from the records of patients who underwent CABG for chronically disabling or unstable angina at Duke University Medical Center. Group I is comprised of 200 consecutive patients operated upon between July 1974 and October 1976, immediately before the introduction of potassium

From the Duke University Medical Center
Durham, North Carolina 27710

cardioplegia. The patients in Group II consist of 200 consecutive patients undergoing CABG between December 1978 and December 1979. In both groups, patients who underwent concomitant valvular replacement or ventricular aneurysmectomy were excluded.

Surgical Management

Patients in Group I underwent CABG employing one of three techniques. In most, autogenous saphenous veins were anastomosed to the ascending aorta either before cardiopulmonary bypass or during the initial phases of bypass with a partial occlusion clamp. Distal anastomoses were then made using either (1) intermittent ischemia, (2) continuous ischemia, or (3) constant perfusion and induced ventricular fibrillation. In each patient the body temperature was maintained between 28° and 32°C by extracorporeal circulation.

The vast majority of the patients in Group II received cold potassium cardioplegia and topical hypothermia during coronary artery anastomoses. The composition of the cardioplegic solution used is shown in Figure 1, with the pH being dependent on the temperature at which the solution is administered. The proximal coronary anastomoses were made as previously described. For the distal anastomoses the ascending aorta was occluded, and 500 to 700 ml of potassium cardioplegic solution was infused at 4°C into the aortic root producing almost immediate cardiac arrest and a reduction in the myocardial temperature to approximately 10°. During ischemic arrest, most of the patients received additional solution every 15 to 20 minutes in order to maintain the myocardial temperature at low levels and to assure complete pharmacologic cardiac arrest. The reason for repetitive infusions of cold potassium solution is

| | |
|------------------|-------------|
| Na ⁺ | 147 mEq/L |
| Cl ⁻ | 155.5 mEq/L |
| K ⁺ | 24-34 mEq/L |
| Ca ⁺⁺ | 4.5 mEq/L |
| CHO | 5% |
| pH | 5.0-7.5 |
| Osm | 309 mOsm/L |

Fig. 1. The composition of the cardioplegic solution.

to offset the effect of the non-coronary collateral blood flow which tends to rewarm the ischemic myocardium and wash out intracoronary cardioplegic solution. During the final distal anastomosis, the systemic temperature is gradually increased to 37°C and the heart is allowed to rewarm.

Some of the patients in Group II underwent CABG with topical hypothermia alone and others with cardioplegic solution alone. Topical hypothermia is produced by immersing the heart in cold (4°) physiologic saline placed in the pericardial sac. A small number of operations in Group II were performed without cardiopulmonary bypass or in one of the manners described in Group I.

In both the groups cardiopulmonary bypass utilizing a disposable bubble oxygenator was used with a right atrial cannula for venous drainage and an ascending aortic cannula for arterial perfusion. Approximately 75% of Group I patients had left ventricular venting of some form while the majority of Group II patients were not vented.

Intra-aortic Balloon Pumping (IABP) and Pulsatile Bypass Pump (PBP)

IABP may be used to assist in weaning the patient from cardiopulmonary bypass. It has also been used prior to operation in those with poor left ventricular function. The rationale for using the IABP is its ability to reduce systemic afterload and augment diastolic coronary arterial driving pressure. In Group II the pulsatile bypass pump was frequently employed. During extracorporeal circulation the PBP provides pulsatile flow, which many believe is preferable to the usual mean flow pattern of the bypass pump. The PBP can also be used before and after CPB to augment diastolic pressure.

Postoperative electrocardiogram

In the two groups, the postoperative development of new, significant Q waves (greater than .04 sec.) was considered suggestive evidence for myocardial infarction. Postoperative EKGs were examined for

Table I: Functional Status of Patients*

| Class | Group I (No. Patients) | Group II (No. Patients) |
|-------|---------------------------|----------------------------|
| I | 11 (5.5%) | 4 (2%) |
| II | 13 (6.5%) | 26 (13%) |
| III | 46 (23%) | 60 (30%) |
| IV | 130 (65%) | 110 (55%) |

*New York Heart Association Classification for angina pectoris

atrial arrhythmias, intraventricular conduction defects, and ischemic changes by a cardiologist unaware of the conduct of the operation or the recovery period. The data are expressed as mean \pm standard deviation, or as percentage of the total number of patients within each group.

RESULTS

Preoperative Assessment

Sex and age. In both groups there were 165 males and 35 females. The mean age for Group I was 50.5 years (range 26-66), and for Group II it was 53.5 years (range, 20-70).

Operative status. In Group I, 186 patients (93%) underwent operation on an elective basis and 14 patients (7%) received emergency CABGs. In Group II, 158 patients (79%) were operated upon electively, and 42 patients (21%) on an emergency basis. The emergency group was comprised of patients with unstable angina or lesions such as left main disease, for whom it was advisable to proceed promptly with operation.

Table II
Data Obtained From
Cardiac Catheterization

| | Group I (No. Patients) | Group II (No. Patients) |
|--|---------------------------|----------------------------|
| Number Diseased Vessels | | |
| 0 | 1 (.5%) | 2 (1%) |
| 1 | 40 (20%) | 31 (16%) |
| 2 | 56 (28%) | 78 (39%) |
| 3 | 103 (51.5%) | 89 (44%) |
| Left Main Disease | | |
| Subtotal (75-95%) | 23 (11.5%) | 23 (11.5%) |
| Total (100%) | 2 (.196) | 0 |
| Ejection Fraction | | |
| < 25% | 4 (2%) | 0 |
| 25-40% | 40 (22%) | 40 (23%) |
| 46-60% | 85 (48%) | 89 (50%) |
| > 60% | 49 (28%) | 48 (27%) |
| Left Ventricular End Diastolic Pressure > 18 mm Hg | 15 (7.5%) | 39 (19.5%) |

Table III: Techniques of Coronary Artery Bypass Surgery

| Mode of Myocardial Protection | n | Total Ischemia (Mins.) | Ischemic Time Per Graft (Mins.) | Reperfusion Time (Mins.) | Length of CPB (Mins.) |
|---|-----------------|------------------------|---------------------------------|--------------------------|-----------------------|
| Group I | | | | | |
| Intermittent reperfusion | 56 pts (28%) | 27.2 ± 13.6 | 12.53 ± 5.25 | 31.7 ± 20 | 102.9 ± 39.5 |
| Moderate hypothermia and single ischemic interval | 54 pts (27%) | 21.87 ± 18.91 | 11.01 ± 7.91 | 30.54 ± 23.28 | 94.33 ± 43 |
| Ventricular fibrillation | 90 pts (45%) | | | | 63.9 ± 34.5 |
| Group II | | | | | |
| Cardioplegia and topical hypothermia | 171 pts (85.5%) | 46.78 ± 25.63 | 17.36 ± 7.9 | 29.9 ± 20.2 | 99.4 ± 43 |
| Cardioplegia alone | 10 pts (5%) | 38.5 ± 20.8 | 21.75 ± 12.8 | 16.3 ± 7.21 | 75.5 ± 42.3 |
| Topical hypothermia alone | 3 pts (1.5%) | 16.6 ± 3 | 6.4 ± 1.7 | 38.6 ± 8 | 116 ± 11.6 |
| Moderate hypothermia and single ischemic interval | 6 pts (3%) | 7.7 ± 3 | 4.9 ± 2.2 | 37.2 ± 25 | 69.3 ± 40 |
| Intermittent reperfusion and topical hypothermia | 4 pts (2%) | 29.5 ± 4 | 9.8 ± 1.2 | 49.2 ± 10 | 127.5 ± 21.8 |
| Without cardiopulmonary bypass | 5 pts (2.5%) | | | | |
| Ventricular fibrillation | 1 pt (.5%) | | | | |

Angina pectoris. In Table I, the patients in both groups are categorized according to the New York Heart Association Classification for angina. Six patients (3%) in Group I and 10 (5%) in Group II had previous histories of congestive heart failure.

Cardiac Catheterization and Angiography. The results of cardiac catheterization are shown in Table II. The average number of diseased vessels in Group I was $2.3 \pm .8$ and in Group II it was $2.3 \pm .8$. The values for preoperative ejection fractions and left ventricular end diastolic pressure (LVEDP) are listed for the 178 patients in Group I and the 177 in Group II in whom such data were obtained. As is apparent, both groups were similar in terms of the preoperative ejection fractions and number of diseased vessels. Also, the degree of left main disease was similar in both groups. The significantly larger number of individuals with an LVEDP greater than 18 in Group II, however, suggests that there were more patients with poorly functioning ventricles in this group.

Preoperative EKG Evidence of Myocardial Infarction. Sixty-nine patients (34.5%) in Group I and 72 patients (36%) in Group II had electrocardiographic evidence of a previous myocardial infarction. One patient in Group I and six in Group II had preoperative intraventricular conduction defects.

Operative Assessment

Myocardial Protection. The techniques by which CABG was performed are shown in Table III.

Completeness of Revascularization. The mean number of grafts in Group I was $2.0 \pm .8$, and that for Group II was $2.6 \pm .9$. The number of patients who received fewer grafts than diseased vessels (completeness of revascularization) was 65 (32.5%) in Group I and 17 (8.5%) in Group II.

Intra-aortic Balloon Pumping and Pulsatile Bypass Pump. The use of the IABP has diminished since 1974. In Group I, 31 patients (15.5%) were placed on IABP while in Group II only 15 patients (7.5%) had IABP. By contrast, there were no patients in Group I who were placed on the PBP, while 42% (84 patients) of Group II received the PBP.

Operative Mortality. The number of patients who died in both groups

and the manner in which they were managed during the operation are shown in Table IV. In Group I, 12 patients died intraoperatively and six died within 30 days. Sixteen of these patients died of cardiac problems. There was only one death in Group II — an operative mortality of 0.5%. This patient died of a cardiac arrhythmia on the third post-operative day.

Postoperative Assessment

Surgical Complications. The postoperative complications in both groups are depicted in Table V. The incidence of postcardiotomy syndrome (chest pain, pericardial rub, and fever) has diminished in the recent past.

Postoperative Electrocardiogram. Seventeen patients (8.5%) in Group I and 18 patients (9%) in Group II developed significant Q waves post-operatively. Of note is that more patients developed intraventricular conduction defects of some type in Group II, 96% of whom received potassium cardioplegia. Most of these EKG changes were transient, resolving within three days, and were generally of little clinical significance.

DISCUSSION

The operative mortality for CABG has progressively dimin-

**Table V
Postoperative Complications**

| | Group I (No. Patients) | Group II (No. Patients) |
|--------------------|---------------------------|----------------------------|
| Superficial Wound | 2 (1%) | 0 |
| Low Cardiac Output | 1 (.5%) | 1 (.5%) |
| Hemorrhage | 8 (4%) | 4 (2%) |
| Mediastinitis | 1 (.5%) | 2 (1%) |
| Post Card Synd. | 26 (13%) | 9 (4.5%) |
| Rectus Hematoma | 2 (1%) | 0 |

Table IV: Operative Mortality

| | Intermittent Ischemia (Patients) | Moderate Hypothermia and Single Ischemic Interval (Patients) | Ventricular Fibrillation (Patients) | Cold Cardioplegia (Patients) |
|-----------------|----------------------------------|--|-------------------------------------|------------------------------|
| Group I | | | | |
| Intraoperative | 2 | 5 | 5 | — |
| Postoperative | 2 | 1 | 3 | — |
| Total | | | | 18 (9%) |
| Group II | | | | |
| Intraoperative | — | — | — | 0 |
| Postoperative | — | — | — | 1 |
| Total | | | | 1 (.5%) |

ished and many centers now report rates of less than 3%.¹¹⁻¹³ Many ascribe this low surgical mortality to the recent use of improved myocardial protection, more complete revascularization, better anesthetic techniques and more effective post-operative management. The experience reported in the present study tends to support this. The 0.5% mortality in the 200 patients in Group II is most likely the result of a number of inter-related factors.

One important feature concerns the possibility that improvement in patient selection has reduced operative mortality. While it is possible that fewer patients in Group II succumbed acutely because pre-operative ventricular function was better and coronary arterial disease was less extensive, analysis of our data does not support this suggestion. Operative mortality has generally correlated directly with a pre-operative LVEDP greater than 18 mm Hg, abnormalities in left ventricular wall-motion, and ejection fractions less than 25 to 30%.¹⁴⁻¹⁹ In Groups I and II the distribution of patients with 2 and 3 vessel disease, preoperative ejection fractions (less than 40%), and the number of patients in NYHA Class III and IV were similar and does not indicate that patients currently undergoing CABG are significantly different than previously. In fact, with a greater number of patients with an LVEDP greater than 18 in Group II, it appears that the later group includes sicker patients.

It appears that hypothermic solutions containing moderate concentrations of potassium (20-30 mEq/liter) extend the ischemic tolerance time of the myocardium.²⁰⁻²⁴ During ischemia the demand for energy by the myocardium is primarily determined by its continued electromechanical activity, basal metabolic functions and temperature. By producing immediate electromechanical cardiac arrest and maintaining the heart at temperatures between 12° and 15° C, cold potassium arrest leads to a decrease in utilization of high energy phosphate during ischemia.²⁵⁻²⁷ Although the primary reason for adenosine triphosphate (ATP) depletion during

ischemia is continued electromechanical activity,²⁸ hypothermia is also critical in reducing utilization of ATP by slowing all intracellular metabolic processes and thereby forestalling significant ischemic injury.²⁹ The ischemic interval notwithstanding, the reperfusion phase is important in determining the ultimate state of the previous ischemic myocardium.³⁰⁻³² In contrast to normothermic ischemia, blood flow in hearts arrested with potassium and kept cold during ischemia is redistributed toward the subendocardium.²⁸ Ventricular compliance and overall ventricular performance, moreover, are also not affected when hearts are made ischemic with cold pharmacologic arrest.³³

In contrast, earlier use of intermittent coronary reperfusion during ischemia to repay metabolic debt has been associated with deterioration in ventricular compliance as well as maldistribution of flow with underperfusion of the subendocardium.³⁴⁻³⁶ Of the 56 patients in Group I whose hearts were rendered intermittently ischemic, four died. That induced ventricular fibrillation exerts an adverse effect upon the heart is suggested by the eight deaths among those patients so treated. That fibrillation may create similar flow imbalances and be associated with subendocardial necrosis, especially in hypertrophied hearts,³⁷⁻⁴⁰ has led to striking restriction of its use. In addition, there were 54 patients in Group I who underwent CABG during a single ischemic interval under conditions of moderate hypothermia (28° to 32° C). It is now recognized that metabolic deterioration during ischemia is not only related to time but to temperature as well, and that deeper hypothermia provides additional protection from severe irreversible injury.^{41,42}

The different approaches for protecting the heart during CABG which were formerly used and considered effective have been replaced by sounder methods of myocardial preservation, while changes in perioperative anesthetic management have been significant in reducing operative mortality, as in-

stanced by the current practice of preventing fluctuations in blood pressure of more than 20% of normal. The use of the Swan-Ganz catheter to monitor left as well as right heart pressures throughout the operation has also been effective in providing hemodynamic data upon which more appropriate therapeutic decisions can be made.

Advancements in anesthetic management parallel the improvements in operative skill brought about by a greater experience.⁴³ A committed effort to bypass all significant lesions is illustrated in the present series by the fewer patients receiving incomplete grafting (9% in Group II vs. 32% in Group I). The completeness of revascularizing significantly obstructed vessels, including branches of the major coronary arteries, is important and has been clearly related to the decline in operative mortality.^{17,44}

The relationship of pulsatile perfusion during cardiopulmonary bypass to operative mortality and morbidity is actively debated. The ability of the PBP to improve hemodynamics in a patient with a compromised ventricle is supported by early work with the intra-aortic balloon pump. Following cardiopulmonary bypass IABP can reduce afterload and increase diastolic coronary flow. The effects of reducing metabolic demand while increasing coronary flow are beneficial particularly to those regions of the heart supplied by stenotic or obstructed vessels. The effect of a pulsatile arterial pressure on renal and other vital organ functions awaits further study of its role in improving surgical results.^{45,46}

In our series postoperative morbidity was minimal in both groups. Of much interest is the strikingly greater number of patients in Group II who developed intraventricular conduction defects. Recent evidence suggests that the use of potassium to protect the ischemic heart is related to the appearance of these changes.⁴⁷ Fortunately, most of these alterations in conduction were transient and did not appear to retard postoperative recovery. The use of cold cardioplegia, moreover, has not been associated with de-

terioration in myocardial function in patients restudied 6 to 18 months after surgery.⁴⁷

The use of hypothermia and pharmacologic cardiac arrest to protect the ischemic heart has been important in making CABG as safe as many other less complicated major surgical procedures. These techniques should be considered within the context of the expanding role of CABG in the management of coronary artery disease. The ultimate aim of myocardial revascularization includes longer life for the patient with ischemic heart disease as well as relief of symptoms. With the marked reduction in immediate mortality and morbidity in such patients, improved survival in certain high risk patients has been observed.

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Neonatal Cerebral Ultrasonography

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ABSTRACT Ultrasonic scanning is a valuable new technique for demonstrating the intracranial anatomy of the neonate. Ventricles and other fluid filled cavities are especially well seen. The absence of any known risk of the procedure permits serial scanning in the neonatal unit, which might lead to earlier diagnosis of neurological disorders and better assessment of their treatment. Preliminary findings are discussed to demonstrate the usefulness of the technique.

SEVERAL recent reports have shown the feasibility of demonstrating the intracranial anatomy of neonates by ultrasonic scanning.¹⁻³ Ultrasound has been widely used in diagnosing cardiac, abdominal and antenatal disorders, but poor penetration of the skull by sound waves has limited its use in detecting intracranial structures. This problem is avoided in neonates by the relative lack of mineralization of the bony calvarium and the open fontanels. The ultrasound technique has been reliable in defining some parts of the neonatal brain, especially the size of the ventricular system.^{4,5}

Our purpose is to acquaint the reader with a method of sonographic brain scanning and to discuss its potential value in neonatal

neurology. Preliminary results using this method have been very encouraging.

METHODS

The real-time scanner (ADR Model 2130) is mounted on a cart along with a videotape recorder, oscilloscope screen, coupling gel and transducer probes of various frequencies. The cart arrangement allows the equipment to be moved easily to the nursery, where the scans can be performed in the crib or isolette with minimal disruption in the infant's care.

Transducers of 3.5, 5.0, and 7.0 MHz frequencies are tried initially and the transducer with the sharpest image reproduction is then selected for use. Generally, the 7.0 MHz transducer works best when scanning tiny premature infants or infants of any gestational age with large, intracranial fluid collections such as massive hydrocephalus. The 3.5 and 5.0 MHz attachments are more useful in larger, older babies.

Sequential scans are made by placing the transducer over the anterior fontanel first in a coronal and then a sagittal direction. The probe is then applied to the right and left lateral calvarium parallel to the canthomeatal line. It is desirable to scan from both lateral positions to obtain optimum pictures of both hemispheres, since the visualization of the area just beneath the transducer is frequently compromised by reverberation artifacts (Figure 1).

A videotape of the intracranial ultrasonic anatomy is recorded as well as intermittent photographic prints. This information can then be used for further analysis and as a permanent record. The ventricular dimensions and brain thickness can best be measured (± 1 mm) during the scanning procedure using electronic calipers provided on the scanning unit.

Both the anterior and posterior fontanels make convenient windows through which sound waves readily pass, although some penetration is possible through the skull.

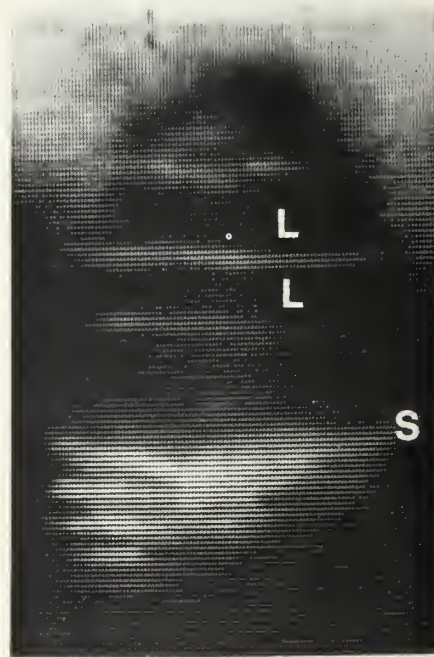


Figure 1: View through the lateral skull (s) showing the lateral ventricles (L) and reverberation artifact under the skull nearest the probe at the top of the picture.

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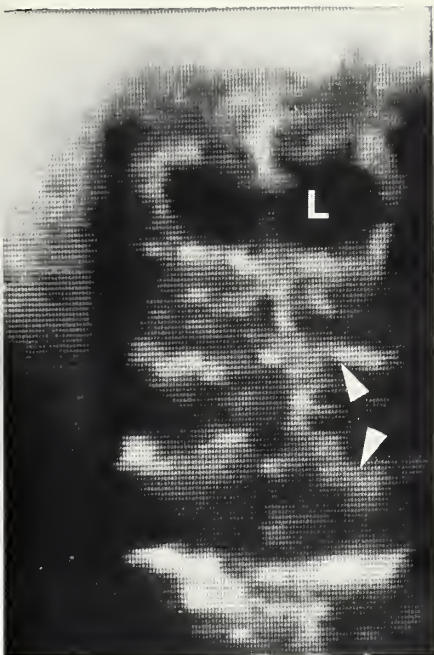


Figure 2: Coronal view through the anterior fontanel showing enlarged lateral ventricles (L) and the outline of the temporal lobes (arrow).

Figure 2 shows a coronal view through the anterior fontanel with moderate ventricular enlargement. The posterior fontanel approach is illustrated by Figure 3, which shows massive dilatation of the posterior horns with a clot in the left lateral ventricle, a finding verified by computerized cranial tomography (CCT).

The brainstem has a characteristic appearance (Figure 4) but the close proximity of the many brainstem structures often makes interpretation difficult. Unfortunately, the fourth ventricle is not consistently visualized.

DISCUSSION

Many premature infants have intraventricular or intracerebral hemorrhages, and those who survive may develop hydrocephalus.⁶ Because ventricular enlargement may start long before the clinical signs of increasing ventricular size,⁷ recognition at an early stage is important so that therapy can be started promptly if possible sequelae are to be prevented.

Until recently, early visualization of ventricular enlargement was possible only in CCT scanning. In contrast to the ionizing radiation used by the CCT scanners, there are no known biological effects from ultrasound in the intensity range used for neonatal cerebral imaging. This is especially important in infants with a protracted course who may require several scans. The ultrasound scan can also be done without the risk of anesthesia or transporting a critically ill infant from the nursery.

Determination of ventricular size is currently the most useful aspect of this technique. Skolnick et al⁵ compared ultrasound with CCT in neonates, and found less than 1 cm difference in the biventricular dimensions in 95% of cases. In 85% of cases, the difference was less than .5 cm. Since the posterior lateral ventricles are frequently the first to enlarge with hydrocephalus, they must be visualized if early ventricular enlargement is not to be missed (Figure 5). In addition to the ventricular system, a large number of other intracranial structures have

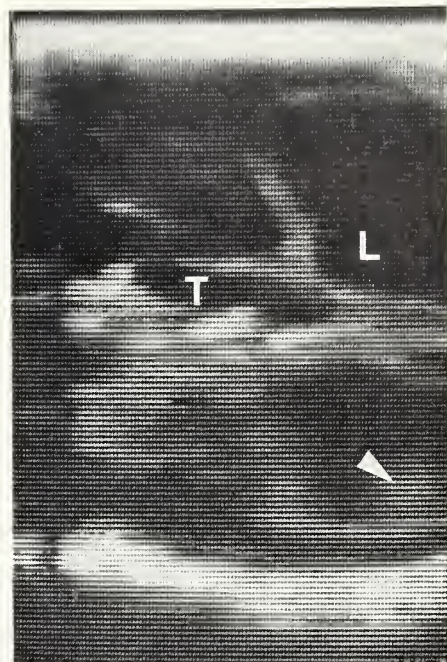


Figure 3b: Lateral view of the patient in 3a showing enlarged third ventricle (T).

been identified.⁸ Unfortunately, these other structures are less consistently identified than the ventricles. In addition, the ultrasonic appearance varies somewhat with the gestational age of the neonate. Ultrasonic scanning has been used in

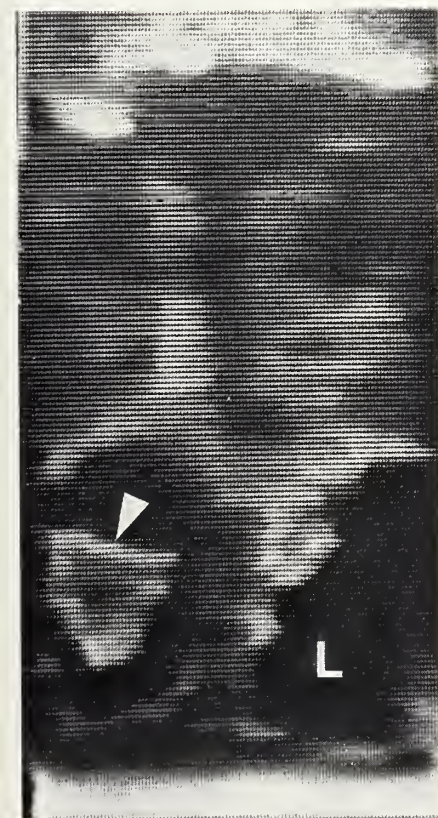


Figure 3a: Posterior fontanel approach showing enlarged posterior horns (L) and clotted blood in the left ventricle (arrow).

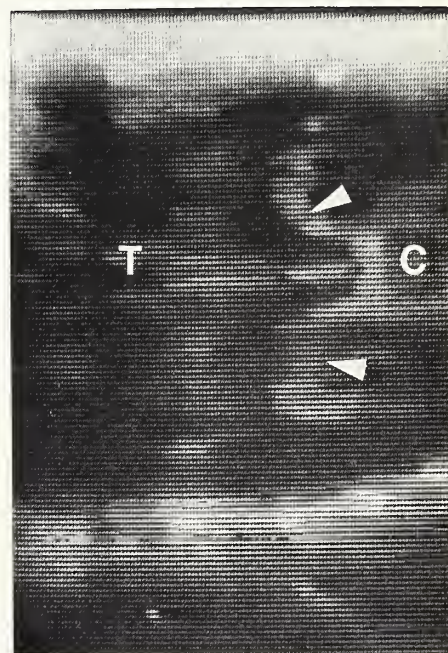


Figure 4: Lateral approach at the level of the midbrain. The characteristic heart-shaped echo pattern of the quadrigeminal and ambient cisterns is evident (arrows) and the third ventricle (T) and the cerebellum (C) are shown.

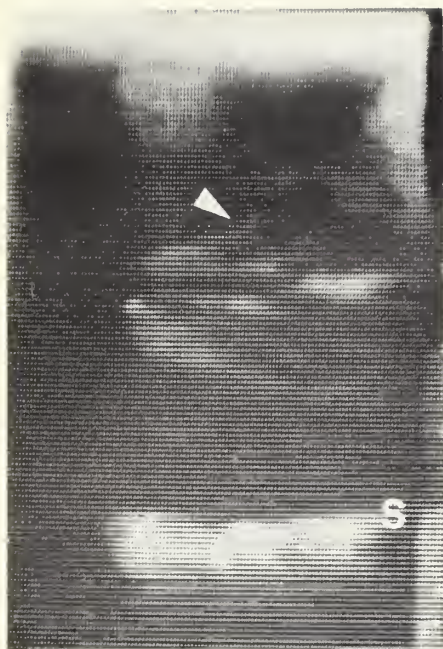


Figure 5: Posterior horns containing choroid plexus (arrow).

children up to age two⁴, but its detail and reliability become progressively less satisfactory with increasing age.

Although ultrasonic imaging of the brain may be limited to infants, it represents a promising new development in neonatal neurology. It should be possible to replace some CCT procedures with ultrasonic scans which would be safer, quicker and less costly. However, the procedure at this time must still be viewed as an adjunct to conventional CCT scanning, since brain anatomy is not fully delineated and because some parts of the brain are not consistently visualized. Nevertheless, once the underlying pathological process is established, serial ultrasonic scanning should be helpful in following treatment. A controlled study comparing ultrasound with CCT is being undertaken to assess the reliability of this new procedure.

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The Use of Psychotropics in the Prison Setting

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ABSTRACT It is essential that definitive guidelines be developed to improve upon the effective use of psychotropics in prisons. This paper presents an overview of some of the problems associated with the use of psychotropics in prisons while calling attention to risks frequently involved when psychopharmaceuticals are prescribed for inmates. In addition to problems with psychotropics, providing good health care to prisoners has become a controversial subject and is of great concern to the medical profession.

I contend that it is imperative to examine and establish standards for the use of psychotropics in prisons. The news media, professional and non-professional magazines, pharmaceutical companies, the courts, and the inmates themselves are constantly reminding us of the problems associated with this issue. Over the past decade much progress has been made toward the development of standards for health care in prisons, with the U.S. Department of Justice, the American Correctional Association, the American Public Health Association and the American Medical Association being among the most active forces. The North Carolina

Medical Society has vigorously pursued methods for improving the health care of prisoners, particularly those in jails, and in 1975 the American Medical Association instituted a program for the accreditation of medical care in jails. Nevertheless, I am in agreement with Chalke¹ who reminds us that no nation has reasons to be proud of its history of health care for prisoners.

In addition to problems with psychopharmaceuticals, providing good health care to prisoners is today a very controversial subject and is of great concern to the medical profession. Regrettably, the care rendered prisoners is often imbued with fears of legal consequences. Thus, it comes as no surprise to learn that correctional health facilities which badly need medical services are stigmatized and ignored by many highly skilled health professionals. Litigation involving the use of psychotropics in prisons and mental institutions across the country has been increasing for several years. Regardless of the final disposition made by the courts in such cases, the legal process is laborious, frustrating and potentially damaging to the medical staff involved. A staff against whom charges have been directed may be ruined, both financially and psychologically. Therefore, I vehemently disagree with those who are in favor of far reaching legal action to insure adequate health care

in prisons.² Too often court action has resulted in the impingement of professional discretion in patient care. Instead, I support peer review with licensure and accreditation by the various standard professional bodies as an alternative to a judicial process that frightens, alienates and deters well-trained and dedicated health professionals from entering an area where they are desperately needed. Treatment in the future — whether with psychotropics or psychological, individual or group methods — must enlist the special orientations and skills of everyone concerned with health care.

The fact remains that few physicians can be expected to derive personal and professional satisfaction from a practice that discourages the full exercise of professional judgment. Physicians accused of disregarding the civil liberties of inmates may now face the dilemma of offering timely and appropriate treatment to severely disturbed individuals pending court approval. In a recent report on treatment in correctional facilities, *Newsweek*³ stated that in some areas of the country disturbed prisoners in need of psychotropics are being confined to isolated cells as an alternative to treatment. Emotionally disturbed prisoners are said to be kept naked to prevent them from harming themselves. They are "left without medication because it is illegal to administer even a mild sedative without an inmate's consent.

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Sometimes they just stand and scream until space can be found in a state hospital." I believe that the public will eventually permit the judicial pendulum to swing in the direction that gives weight not only to the wishes of the patient but to exigencies of emergency medical situations. At the very least, recent Supreme Court decisions (*Parham v. J.L.*, 47 U.S.L.W. 4740, 1979, and *Vietek v. Jones*, No. 78-1155, Sup. Ct. March 25, 1980), indicate that the courts refuse to accept the view that medical personnel working within corrections will inherently compromise their decision making roles and lose their objectivity.⁴ Today we are told that the prevalence of psychoses in prisons may range as high as three percent with the majority in need of treatment.⁵ Simultaneously we must decide how practical it is to afford each acutely disturbed patient an adversarial hearing before treatment can commence. This dilemma is not unique to prisons but is shared by many institutions that must care for individuals who because of mental illness have lost the capacity to make rational choices regarding their treatment.⁶ No informed and caring clinician would seek to deny any citizen full protection of the Constitution and Bill of Rights, especially in view of recent court decisions.⁷⁻¹¹ I am convinced that the principle of informed consent must become a reality and extend beyond merely obtaining a patient's signature to documents designed to indicate an agreement to treatment but frequently filled with technical jargon. Besides meeting the requirements of the law, what a physician tells a patient regarding treatment must reflect the physician's perceptions of the illness and the patient's mental or emotional state at that time. Nevertheless, some feel that to insure informed consent, patients should be provided with professional literature about psychotropics including copies of the *Physician's Desk Reference*, which was prepared to aid clinicians, pharmacists and other allied health professionals.¹² It is doubtful that the lay public can be significantly helped by this mate-

rial; it could increase unwarranted fears and anxieties. If material about psychotropics is to be given to patients, it should be especially prepared to accomplish greater enlightenment, since the illusion of being informed is serious and can contribute to an erosion of the physician-patient treatment alliance.

There are many circumstances in prisons where the use of psychotropics is appropriate. Psychotropics, ranging from minor tranquilizers such as benzodiazepines to extremely potent neuroleptics, i.e., phenothiazines, can be safely prescribed by all physicians properly trained and thoroughly familiar with the actions of these pharmaceuticals. In essence, the prerequisite is that the physicians know three things: 1) the psychopharmacology of the prescribed medication, 2) the presenting symptoms of the patient and the clinical indications for treatment, 3) the stress level in the prison environment.

Familiarity with the Psychopharmacology of Psychotropics

In institutions where there is a shortage of professional staff, the use of certain psychotropics can have serious consequences. For example, the allergic reactions, the hypotensive effects and the acute dystonic reactions associated with neuroleptics can be frightening and serious.¹³ Tardive dyskinesia which can also occur with these particular psychotropics may be irreversible and invite lawsuits. Because neuroleptics are powerful tranquilizers, they may be inappropriately prescribed to curb aggressive and/or assaultive behavior in prisoners who are not psychotic. The use of tranquilizers and especially neuroleptics with noisy or belligerent inmates to facilitate their "management" by custodial staff should be forbidden. Even with cases of acute psychosis long-acting neuroleptics should be used cautiously, particularly when follow-up is difficult or impossible. Likewise, the appropriate use of lithium carbonate for the treatment of affective disorders requires an initial physical assessment with periodic monitor-

ing of serum lithium levels. Should these stipulations with the use of lithium become impossible, then the choice becomes a neuroleptic. In fact, neuroleptics may be selected for control of the acute symptoms of manic-depressive symptomatology.

Although psychotropics may be more expensive when prescribed as concentrates or liquids, this form may save lives. Liquids are more difficult to hoard and easier to administer. Observing inmates as they take their medications and discouraging their discretionary use of tablets instead of liquids can help immensely. The potential for the misuse of psychotropics is so great in prisons as to dictate that inmates not assist with preparing or dispensing medications. Due to physical discomfort, the use of even high-potency low-dose intramuscular medicines should be kept to a minimum.

In spite of precautions, there are rare instances in prisons where physical and/or emotional dependence upon a particular psychotropic may be unavoidable. In cases of certain malignancies or terminal diseases, the most judicious use of some psychotropics may result in tolerance and ultimately dependence.¹⁴ Under these conditions the physician must be guided by his best clinical judgment and/or consultation with peers. Ordinarily, medicines are prescribed to restore people to a state of health, or to prevent certain illnesses from occurring. Physicians have tried to relieve the emotional pain of prisoners with drugs that could not heal or cure.¹⁵

Antiparkinson agents, widely prescribed to curb the side effects of neuroleptics, are frequently abused by prisoners because of their anticholinergic properties. It is interesting to note that clinicians are now weighing the value of antiparkinson drugs in preventing extrapyramidal symptoms against concerns that these medications may interfere with neuroleptic absorption. In fact, some clinicians suggest that these preparations may exacerbate tardive dyskinesia or induce toxic brain syndrome. It is concluded that the use of p.r.n. orders is to be discouraged and we

should individualize the use of psychotropics for a specific set of symptoms.

Awareness of the Presenting Symptoms

A knowledge of psychopharmacology and the clinical indications for treatment are inseparable. However, incarceration by its stressful nature evokes enormous emotional turmoil which can give rise to a variety of physical and emotional symptoms. Most commonly recognized are depressions and/or states of anxiety that could probably be treated with psychotropics with few if any risks under different clinical circumstances. Parenthetically, a significant number of situational conditions exist among prisoners which are found to be transient and respond favorably to non-psychotropic forms of treatment. Therefore, the risks I see with psychotropics in prison settings are: 1) creating and/or continuing a psychological and/or a physiological dependence on psychotropics, 2) creating for inmates a situation in which they face psychological intimidation and/or physical threats from other inmates who may wish to obtain these medications for themselves or for bartering, 3) prescribing medications that would add to the pool of con-

triband drugs already present, thus increasing the probability of overdosages and suicides. Suffice it to say, appropriate use of psychotropics with mentally retarded and psychotic inmates is essentially the same as with non-prisoners in public or private institutions. With this category of relatively dependent, defenseless inmates, it is apparent that all the risks previously mentioned become extremely important in prisons.

The Prison Environment

The milieu of a prison is unique, composed of an involuntarily confined population. It is an environment of individuals who have been identified and found guilty of transgressions against the laws of society. Uncommon effects of sensory deprivation may be encountered, resulting from enforced isolation or a natural consequence of the environment, and failure to recognize such symptoms may result in the inappropriate prescription of psychotropics. Finally, boredom from the prison milieu may give rise to the wish to escape reality, and there are inmates who will attempt to do this with the sustained use of psychotropics, regardless of the consequences.

Finally, it is impossible to discuss in this brief paper all of the problems

related to the use of psychotropics in prisons. However, through continued education, consultation and training, the improved use of psychotropics with prisoners can be made possible. The abatement of pain, physical or emotional, has been considered a desirable goal since the beginning of medicine. Thus, preventing and treating physical or emotional symptoms are the major reasons why medicines are prescribed, regardless of the setting.

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Toxic Encounters of the Dangerous Kind

ANTIHISTAMINE TOXICITY

These drugs are among the most common medications found in the homes of our patients. Both OTC and prescription varieties are numerous, primarily as "cold" medicines, allergy remedies and non-prescription "sleeping pills" (e.g., Somnex, Unisom, Miles Nervine).

Most practitioners are aware that an overdose of antihistamines in an adult causes CNS depression marked by drowsiness, inability to concentrate, disturbed coordination and blurred vision. These features are common in people even on therapeutic doses. In marked overdose, coma can occur. But are you aware that in children an overdose of an antihistaminic can cause CNS excitation?

Children are particularly susceptible to the CNS stimulatory effects of the antihistamines with such clinical features as tremors, hyperactivity, hyper-reflexia, hallucinations (very common in our experience), ataxia, athetosis, insomnia and tonic-clonic convulsions being observed. Antihistamines have anticholinergic effects which may be the cause of these clinical manifestations, as well as of flushed skin, fever, tachycardia and mydriasis. Children seem to be especially sensitive to these anticholinergic effects.

Most of the fatalities from antihistamine toxicity have been in children. Children who die from an overdose have

uncontrolled seizures progressing to coma and cardiorespiratory arrest. The lethal dose in man is not known for most antihistamines but 25-50 mg/kg (20 to 30 tablets) can represent a fatal dose for a child. These drugs are rapidly absorbed from the GI tract with adverse symptoms developing within 1-2 hours (except with the time released preparations).

Treatment consists of gastric emptying via ipecac or lavage followed by activated charcoal and a saline cathartic (with time release preparations late gastric emptying is probably indicated). There is no specific antidote but control of seizures should be attempted with diazepam or short acting barbiturates (adverse synergistic sedative effect is a danger here) and the severe anticholinergic effects can be treated cautiously with physostigmine. Forced diuresis or dialysis is not helpful.

The next time you see a preschool child who is hallucinating and very agitated, think of antihistamine overdose.

Ronald B. Mack, M.D.

Department of Pediatrics
Bowman Gray School of Medicine
of Wake Forest University
Winston-Salem, N.C., and
Chairman, Committee on Accidents
and Poison Prevention
North Carolina Chapter of the
American Academy of Pediatrics



For the pain of osteoarthritis
the proven power of

Motrin[®]
ibuprofen, Upjohn
600 mg Tablets
One tablet t.i.d.

Please see the following page for a brief summary of prescribing information.

Upjohn

Motrin® Tablets (ibuprofen, Upjohn)

Contraindications: Individuals hypersensitive to it, or with the syndrome of nasal polyps, angioedema, and bronchospastic reactivity to aspirin, iodides, or other non-steroidal anti-inflammatory agents. Anaphylactoid reactions have occurred in such patients.

Warnings: Peptic ulceration and gastrointestinal bleeding, sometimes severe, have been reported. Ulceration, perforation, and bleeding may end fatally. An association has not been established. *Motrin* should be given under close supervision to patients with a history of upper gastrointestinal tract disease, only after consulting ADVERSE REACTIONS.

In patients with active peptic ulcer and active rheumatoid arthritis, nonulcerogenic drugs, such as gold, should be tried. If *Motrin* must be given, the patient should be under close supervision for signs of ulcer perforation or gastrointestinal bleeding.

Chronic studies in rats and monkeys have shown mild renal toxicity characterized by papillary edema and necrosis. Renal papillary necrosis has rarely been shown in humans treated with *Motrin*.

Precautions: Blurred and/or diminished vision, scotomata, and/or changes in color vision have been reported. If these develop, discontinue *Motrin* and the patient should have an ophthalmologic examination, including central visual fields and color vision testing. **Fluid retention and edema** have been associated with *Motrin*; use with caution in patients with a history of cardiac decompensation or hypertension. *Motrin* is excreted mainly by the kidneys. In patients with renal impairment, reduced dosage may be necessary. Prospective studies of *Motrin* safety in patients with chronic renal failure have not been done. *Motrin* can inhibit platelet aggregation and prolong bleeding time. Use with caution in persons with intrinsic coagulation defects and those on anticoagulant therapy. Patients should report signs or symptoms of gastrointestinal ulceration or bleeding, blurred vision or other eye symptoms, skin rash, weight gain, or edema. To avoid exacerbation of disease or adrenal insufficiency, patients on prolonged corticosteroid therapy should have therapy tapered slowly when *Motrin* is added. The antipyretic, anti-inflammatory activity of *Motrin* may mask inflammation and fever.

Drug interactions: *Aspirin*: used concomitantly may decrease *Motrin* blood levels.

Coumarin: bleeding has been reported in patients taking *Motrin* and coumarin.

Pregnancy and nursing mothers: *Motrin* should not be taken during pregnancy nor by nursing mothers.

Adverse Reactions

The most frequent type of adverse reaction occurring with *Motrin* is gastrointestinal, of which one or more occurred in 4% to 16% of the patients.

Incidence Greater Than 1% (but less than 3%)—Probable Causal Relationship

Gastrointestinal: Nausea*, epigastric pain*, heartburn*, diarrhea, abdominal distress, nausea and vomiting, indigestion, constipation, abdominal cramps or pain, fullness of GI tract (bloating and flatulence); **Central Nervous System:** Dizziness*, headache, nervousness; **Dermatologic:** Rash* (including maculopapular type), pruritus; **Special Senses:** Tinnitus; **Metabolic/Endocrine:** Decreased appetite; **Cardiovascular:** Edema, fluid retention (generally responds promptly to drug discontinuation; see PRECAUTIONS).

Incidence Less Than 1%—Probable Causal Relationship**

Gastrointestinal: Gastric or duodenal ulcer with bleeding and/or perforation, gastrointestinal hemorrhage, melena, gastritis, hepatitis, jaundice, abnormal liver function tests; **Central Nervous System:** Depression, insomnia, confusion, emotional lability, somnolence, aseptic meningitis with fever and coma; **Dermatologic:** Vesiculobullous eruptions, urticaria, erythema multiforme, Stevens-Johnson syndrome, alopecia; **Special Senses:** Hearing loss, amblyopia (blurred and/or diminished vision, scotomata, and/or changes in color vision) (see PRECAUTIONS); **Hematologic:** Neutropenia, agranulocytosis, aplastic anemia, hemolytic anemia (Sometimes Coombs' positive), thrombocytopenia with or without purpura, eosinophilia, decreases in hemoglobin and hematocrit; **Cardiovascular:** Congestive heart failure in patients with marginal cardiac function, elevated blood pressure, palpitations; **Allergic:** Syndrome of abdominal pain, fever, chills, nausea and vomiting, anaphylaxis, bronchospasm (see CONTRAINDICATIONS); **Renal:** Acute renal failure in patients with preexisting, significantly impaired renal function, decreased creatinine clearance, polyuria, azotemia, cystitis, hematuria; **Miscellaneous:** Dry eyes and mouth, gingival ulcer, rhinitis.

Incidence Less Than 1%—Causal Relationship Unknown**

Gastrointestinal: Pancreatitis; **Central Nervous System:** Paresthesias, hallucinations, dream abnormalities, pseudotumor cerebri; **Dermatologic:** Toxic epidermal necrolysis, photoallergic skin reactions; **Special Senses:** Conjunctivitis, diplopia, optic neuritis; **Hematologic:** Bleeding episodes (e.g., epistaxis, menorrhagia); **Metabolic/Endocrine:** Gynecomastia, hypoglycemic reaction; **Cardiovascular:** Arrhythmia (sinus tachycardia, sinus bradycardia); **Allergic:** Serum sickness, lupus erythematosus syndrome, Henoch-Schönlein vasculitis; **Renal:** Renal papillary necrosis.

*Reactions occurring in 3% to 9% of patients treated with *Motrin*. (Those reactions occurring in less than 3% of the patients are unmarked.)

**Reactions are classified under "Probable Causal Relationship" (PCR) if there has been one positive rechallenge or if three or more cases occur which might be causally related. Reactions are classified under "Causal Relationship Unknown" if seven or more events have been reported but the criteria for PCR have not been met.

Overdosage: In cases of acute overdosage, the stomach should be emptied. The drug is acidic and excreted in the urine, so alkaline diuresis may be beneficial.

Dosage and Administration: Do not exceed 2400 mg per day. If gastrointestinal complaints occur, administer with meals or milk.

Rheumatoid arthritis and osteoarthritis, including flares of chronic disease: Suggested dosage is 300, 400, or 600 mg t.i.d. or q.i.d. Mild to moderate pain: 400 mg every 4 to 6 hours as necessary for relief of pain.

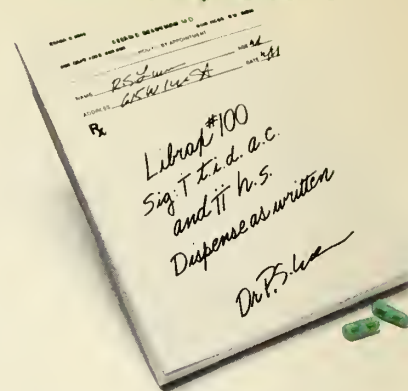
Caution: Federal law prohibits dispensing without prescription.

Upjohn

THE UPJOHN COMPANY
Kalamazoo, Michigan 49001 USA

MEDB-5-S

Specify Librax®



Each capsule contains 5 mg chlordiazepoxide HCl and 2.5 mg clidinium Br.

Please consult complete prescribing information, a summary of which follows:

Indications: Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the indications as follows

"Possibly" effective as adjunctive therapy in the treatment of peptic ulcer and in the treatment of the irritable bowel syndrome (irritable colon, spastic colon, mucous colitis) and acute enterocolitis

Final classification of the less-than-effective indications requires further investigation

Contraindications: Glaucoma, prostatic hypertrophy, benign bladder neck obstruction, hypersensitivity to chlordiazepoxide HCl and/or clidinium bromide

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants, and against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Physical and psychological dependence rarely reported on recommended doses, but use caution in administering Librium® (chlordiazepoxide HCl/Roche) to known addiction-prone individuals or those who might increase dosage, withdrawal symptoms (including convulsions) reported following discontinuation of the drug

Usage in Pregnancy: Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy. Advise patients to discuss therapy if they intend to or do become pregnant.

As with all anticholinergics, inhibition of lactation may occur

Precautions: In elderly and debilitated, limit dosage to smallest effective amount to preclude ataxia, oversedation, confusion (no more than 2 capsules/day initially, increase gradually as needed and tolerated). Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider pharmacology of agents, particularly potentiating drugs such as MAO inhibitors, phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions reported in psychiatric patients. Employ usual precautions in treating anxiety states with evidence of impending depression, suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation reported very rarely in patients receiving the drug and oral anticoagulants, causal relationship not established

Adverse Reactions: No side effects or manifestations not seen with either compound alone reported with Librax. When chlordiazepoxide HCl is used alone, drowsiness, ataxia, confusion may occur, especially in elderly and debilitated, avoidable in most cases by proper dosage adjustment, but also occasionally observed at lower dosage ranges. Syncope reported in a few instances. Also encountered isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent, generally controlled with dosage reduction, changes in EEG patterns may appear during and after treatment, blood dyscrasias (including agranulocytosis), jaundice, hepatic dysfunction reported occasionally with chlordiazepoxide HCl, making periodic blood counts and liver function tests advisable during protracted therapy. Adverse effects reported with Librax typical of anticholinergic agents, i.e., dryness of mouth, blurring of vision, urinary hesitancy, constipation. Constipation has occurred most often when Librax therapy is combined with other spasmolytics and/or low residue diets

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Librax... the only G.I. medication that provides the action of Librium® (chlordiazepoxide HCl) to relieve the accompanying anxiety found in some patients, plus the action of Quarzan® (clidinium bromide) to reduce colonic spasm and gastric hypersecretion.

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Adjunctive
Librax®

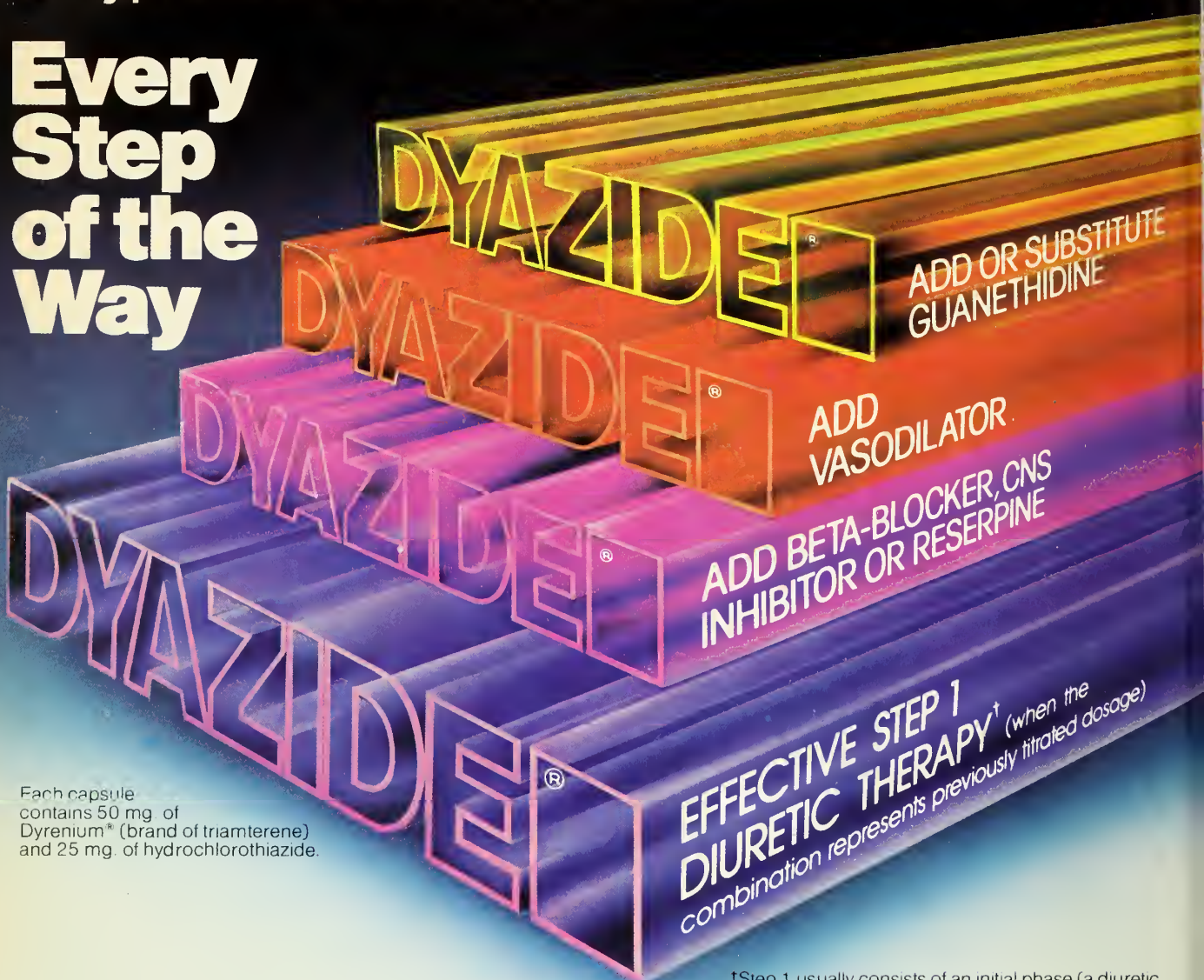
Each capsule contains 5 mg chlordiazepoxide HCl
and 2.5 mg clidinium Br.

*Antianxiety/Antisecretory/
Antispasmodic*

*Librax has been evaluated as possibly effective for these indications. Please see summary of prescribing information on facing page.

In Hypertension*...When You Need to Conserve K⁺

Every Step of the Way



Each capsule contains 50 mg. of Dyrenium® (brand of triamterene) and 25 mg. of hydrochlorothiazide.

†Step 1 usually consists of an initial phase (a diuretic alone), a titration phase (dosage adjustment and/or addition of a K⁺ supplement or K⁺-sparing agent), and a maintenance phase (a diuretic alone or in combination with a K⁺ supplement or K⁺-sparing agent).

Serum K⁺ and BUN should be checked periodically (see Warnings).

Before prescribing, see complete prescribing information in SK&F Co. literature or PDR. The following is a brief summary.

WARNING

This drug is not indicated for initial therapy of edema or hypertension. Edema or hypertension requires therapy titrated to the individual. If this combination represents the dosage so determined, its use may be more convenient in patient management. Treatment of hypertension and edema is not static, but must be reevaluated as conditions in each patient warrant.

Contraindications: Further use in anuria, progressive renal or hepatic dysfunction, hyperkalemia. Pre-existing elevated serum potassium. Hypersensitivity to either component or other sulfonamide-derived drugs.

Warnings: Do not use potassium supplements, dietary or otherwise, unless hypokalemia develops or dietary intake of potassium is markedly impaired. If supplementary potassium is needed, potassium tablets should not be used. Hyperkalemia can occur, and has been associated with cardiac irregularities. It is more likely in the severely ill, with urine volume less than one liter/day, the elderly and diabetics with suspected or confirmed renal insufficiency. Periodically, serum K⁺ levels should be determined. If hyperkalemia develops, substitute a thiazide alone, restrict K⁺ intake. **Associated widened QRS complex or arrhythmia requires prompt additional therapy.** Thiazides cross the placental barrier and appear in cord blood. Use in pregnancy requires weighing anticipated benefits against possible hazards, including fetal or neonatal jaundice, thrombocytopenia, other adverse reactions seen in adults. Thiazides appear and

triamterene may appear in breast milk. If their use is essential, the patient should stop nursing. Adequate information on use in children is not available. Sensitivity reactions may occur in patients with or without a history of allergy or bronchial asthma. Possible exacerbation or activation of systemic lupus erythematosus has been reported with thiazide diuretics.

Precautions: Do periodic serum electrolyte determinations (particularly important in patients vomiting excessively or receiving parenteral fluids). Periodic BUN and serum creatinine determinations should be made, especially in the elderly, diabetics or those with suspected or confirmed renal insufficiency. Watch for signs of impending coma in severe liver disease. If spironolactone is used concomitantly, determine serum K⁺ frequently, both can cause K⁺ retention and elevated serum K⁺. Two deaths have been reported with such concomitant therapy (in one, recommended dosage was exceeded, in the other, serum electrolytes were not properly monitored). Observe regularly for possible blood dyscrasias, liver damage, other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving triamterene, and leukopenia, thrombocytopenia, agranulocytosis and aplastic anemia have been reported with thiazides. Triamterene is a weak folic acid antagonist. Do periodic blood studies in cirrhotics with splenomegaly. Antihypertensive effects may be enhanced in post-sympathectomy patients. Use cautiously in surgical patients. The following may occur: transient elevated BUN or creatinine or both, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), hyperuricemia and gout, digitals intoxication (in hypokalemia), decreasing alkali reserve with possible metabolic acidosis. 'Dyazide' interferes with fluorescent measurement of quinidine. Hypokalemia is uncommon with 'Dyazide', but should it develop, corrective measures should be taken such as potassium supplementation or increased

dietary intake of potassium-rich foods. Corrective measures should be instituted cautiously and serum potassium levels determined. Discontinue corrective measures and 'Dyazide' should laboratory values reveal elevated serum potassium. Chloride deficit may occur as well as dilutional hyponatremia. Serum PBI levels may decrease without signs of thyroid disturbance. Calcium excretion is decreased by thiazides. 'Dyazide' should be withdrawn before conducting tests for parathyroid function.

Diuretics reduce renal clearance of lithium and increase the risk of lithium toxicity.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth, anaphylaxis, rash, urticaria, photosensitivity, purpura, other dermatological conditions, nausea and vomiting, diarrhea, constipation, other gastrointestinal disturbances. Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and, rarely, allergic pneumonitis have occurred with thiazides alone. Triamterene has been found in renal stones in association with other usual calculus components. Rare incidents of acute interstitial nephritis and of impotence have been reported with the use of 'Dyazide', although a causal relationship has not been established.

Supplied: Bottles of 1000 capsules; Single Unit Packages (unit-dose) of 100 (intended for institutional use only); in Patient-Pak™ unit-of-use bottles of 100.

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Editorials

MEDICINE AND THE MEDIA

One of the canons of experts in communications today is that great things can be expected by getting to know your media man better. Presumably your own story will be told better, the media will acquit its responsibility more nobly and the world will be a better place thereby. To get to know one's media man and woman better, one can invite him or her to lunch. Because media are as numerous as muses, this may mean a big lunch, the cost of which can be charged off, if your organization is a legitimate business, or represented as a proper expense for altruistic societies.

So our county medical society recently had a media luncheon. Town and gown, TV and radio, newspaper and medicine man and woman were all represented. Some of us knew each other and chatted, others sought hasty introductions and shook hands gingerly before sitting down to eat at the standard U-shaped table. The media folk sat down to the right of our officers, the medical contingent down to the left and attacked a reasonably good meal, an essential to all such gatherings.

Halfway through the dessert the discussion began as we sought to learn more about each other's business. It soon became apparent that some of our guests thought they had been invited to be cultivated, even to be encouraged to manage news and suspected that we physicians might be a bit doctrinaire. But as conversation continued, several important points emerged.

1. Physicians may have a distorted view of news gathering in the modern world. TV, for example, has little time to develop stories and provide even minimal continuity. It offers a transient limelight, uncomfortable for the physician concerned with pathogenesis, prognosis and the ultimate place in medicine of the latest from the laboratory.

2. Look for medical continuity in medical journals and monographs and in magazines. The daily press, radio and TV simply cannot provide it. The best medical writing in this country is not being done by physicians either. Read the *Annals of Medicine* in the New Yorker to see how Berton Roueché does it.

3. The half-life of news is short. Better a good story quickly than sustained bureaucratic dullness.

4. The public needs medical information and we as physicians have an obligation to provide it. There may be more danger in anonymity than in an occasional incorrect attribution.

5. To doctors, articles about medicine will always present the story from the outside. How can it be

otherwise, given the backgrounds of writers and audiences? Local physicians, however, do need to be available to reporters who have not had medical training and who don't necessarily share vocabularies with us. Reporters are not trying to embarrass physicians.

6. Don't parrot a party line. Newsmen must be suspicious and skeptical, just as most physicians. We take different types of histories but we are both concerned with Who? What? When? Where? Which? What kind of? How many?

7. Neither physicians nor the media can always be relied on to tell the difference between news, publicity and propaganda despite our protestations to the contrary. We deceive ourselves easier than we do each other and must always be ready to correct our own mistakes and misapprehensions.

8. Trust will sometimes be betrayed through ignorance or misunderstanding, rarely intentionally.

9. The next time you have media luncheon, use place cards.

J.H.F.

BOOK REVIEW

The Story of an Idea — E. Metchnikoff's Work by A. Besredka. Bend, Oregon: Maverick Publications, 1979, 86 pp.

This is a translation by A. Rivenson, M.D., and R. Oestreicher, M.D., of Besredka's 1921 monograph, part of a Pasteur Institute series, published in Paris by Masson. Besredka was a Pasteur Institute professor who had spent 20 years in the company of Metchnikoff, for whom he had immense respect. In this short work he discusses the 1908 Nobel prize winner's work (with Paul Ehrlich) under the headings of embryogenesis, inflammation, immunity, aging, pathology and philosophy. There is a brief foreword by Rivenson, one of the translators, and a preface by the late Dr. Ludwik Gross, who worked with Besredka for eight years before coming to this country, where he did outstanding work with transmissible leukemias of animals.

Now that Metchnikoff has achieved his place among the immortals it is difficult to appreciate his struggles to gain acceptance for his observations on immunity. As the person who brought the macrophage into prominence and who would be delighted to see what his early work has led to, he had to contend with

the early authorities in immunology whose whole cast of mind was toward the humoral aspects of immunity. It is part of Metchnikoff's achievement that he was by nature a fighter, quite confident in the truth of his observations without being overextended in his interpretations. Besredka shared his confidences and provides an insight into the man's attitudes that is hard to come by elsewhere.

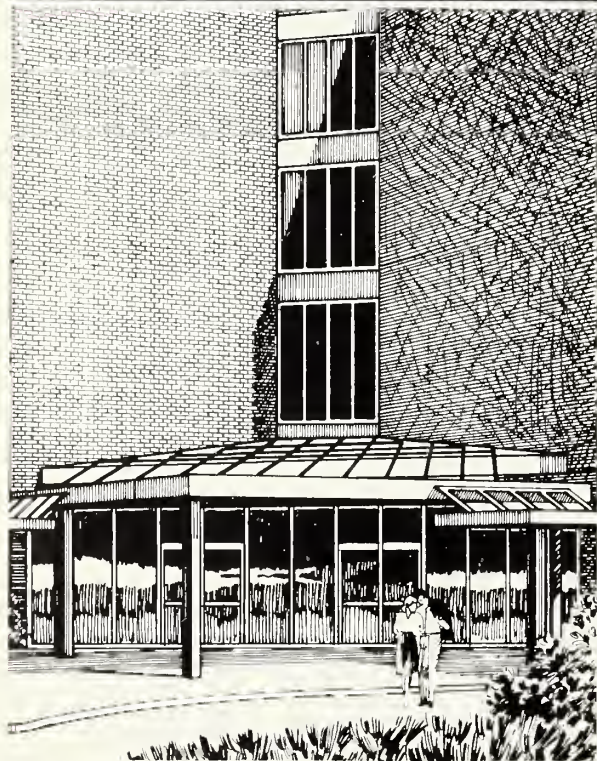
The book — more a pamphlet — is fascinating, charming and stimulating. Following the unfolding of the insights of genius is always awesome; things are made to look so simple and obvious even though the reader knows of all the work and transcendental reasoning that had to take place before the truth emerged. Metchnikoff's concern with aging and diet — he is more responsible for the popularity of yogurt than

most people realize — are not dealt with at length, perhaps indicating that Besredka, in 1921, did not realize how great an interest the public had in this part of his mentor's activity.

The charm of the book comes not only from what Besredka had to say, but with the translation, which can best be described as accented, something said without derogation. Had it been edited to remove improperly-chosen idioms and certain misspellings a lot would have been lost. Dr. Rivenson advises that there are only 10 copies of the original French work and 500 of the English translation. Anyone with an interest in the history of immunology, or in the field of comparative biology or medicine, will find this a gem for his collection.

R.W.P.

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the PATIENT as PARTNER

By Lynn Olson Dowling
Assistant Director
Department of Practice Management
Division of Medical Practice
American Medical Association

When we asked several physicians using office-based patient education programs if they'd been successful, the unanimous reply was, "Definitely!" And, most added that they would encourage their colleagues to do the same.

Systems can range from simple brochures to video-cassettes to professionals trained in health education. Physicians responding to an informal questionnaire shared their experiences in using various forms of patient education. Saved time and increased patient compliance with treatment regimens were cited as two big pluses of patient education. Some physicians reported that their "informed" patients provided a better history, sought treatment earlier and were less likely to suffer reoccurrences of their illnesses. Others added that they viewed their patient education program as a helpful supplement to informed consent.

It's important to remember, as one physician pointed out, that patient education isn't a substitute for instruction by you. In his words, "It's a supplement which reinforces my personal instruction. I find that after viewing our tapes that my patients ask more relevant questions."

Your staff can enjoy benefits as well. "Due to a lack of repeat questions, my office personnel are freed to handle other tasks," reports one busy pediatrician. Informed patients are also less apt to be no-shows. Another said, "My glaucoma patients now seem to better understand the need for follow-up." And, patients might even be more conscientious about their bills. One ophthalmologist explains: "My patients are getting something which other physicians of my specialty don't have — they probably realize the cost factor involved, hence better collections." All of these benefits add

up to better office-patient relationships, a fact the surveyed physicians attest to strongly. "Better understanding leads to better relationships. My non-medical personnel are very interested in our films."

There are a wealth of patient education systems as well as suppliers for you to choose from. The American Medical Association offers an extensive number of inexpensive publications; topics range from allergies to venereal disease. Write to the Department of Health Education, AMA, for a free copy of their catalog. Many medical specialty societies also publish excellent brochures, so be sure to check with yours. The American Group Practice Association, in conjunction with a patient education consulting firm has developed a comprehensive patient education program for group practices and can even provide a consultant to train your patient education "staff." Both the American Hospital Association and HEW's Center for Disease Control maintain up-to-date listings of many commercial suppliers of patient education materials, audio-visuals, and films.

What about costs? Simple brochures will begin at about 25 cents a piece, with substantial discounts given when you order in quantity. The cost of film cassettes, movies, and videotapes will vary — suppliers suggest that most physicians start with an average of eight film cassettes and one viewer/projector. The entire package can be leased for between \$45 and \$70 a month. To buy the package outright will run somewhere in the neighborhood of \$1,000 to \$2,000. If contemplating an audio-visual system, be sure to have a commercial representative visit your office for a demonstration. You'll want to make sure you have adequate space available and that the information is in line with your treatment philosophy.

Today's "tuned in" patient wants to know more about their condition. Your patient education system could help to meet that need.

NORTH CAROLINA DIVISION OF HEALTH SERVICES

Conjoint Report To The North Carolina Medical Society

Ron Levine, M.D., M.P.H.

I greatly appreciate the opportunity to once again fulfill this most pleasant of statutory obligations — to convey to the membership of the North Carolina Medical Society at our annual meeting a report of accomplishments achieved, of problems faced, and of obstacles looming ahead that threaten the capacity of your state health agency, its staff of professional health workers and our sister local health departments in North Carolina to meet in an effective manner the pressing health needs of our citizens.

Being a wholly positive person, I will not dwell upon such formidable adversaries as our continuing epidemic of teenage pregnancy — children having children — or such vexing yet surely soluble enigmas as the carnage upon our highways, nor finally such provoking and innately unfair facts of North Carolina life (or death, as it were) as the still gaping abyss between the health indices recorded by our white citizens as contrasted with our black and Indian neighbors. I allude to them only to say that we will continue, with your very material collaboration and assistance, to assault these patently unacceptable situations in our beloved state and hope to

punctuate future reports with news of battles won in these arenas. Let me, then, be the bearer of some good news from a variety of program areas, with special attention to an outstanding area of accomplishment, immunization, and to another area of concentration, environmental health services, which we have not sufficiently emphasized in recent reports to this body.

The state's fledgling screening program for congenital hypothyroidism successfully identified and brought to treatment 11 youngsters with this abnormality in 1980. The public-private cooperative system that resulted in the salvaging of those babies as well three additional babies diagnosed as having phenylketonuria is something of which we can all be proud.

Local health department nurses reviewed 86% of our state's 84,481 newborn records in an attempt to detect babies at greatest risk of encountering developmental problems and went to great lengths to ensure that every one of those high-risk babies was enrolled in a regular system of care, either private or public.

Much-needed health services were provided to over 20,000 migrant agricultural farm workers as they streamed through our state last spring and summer providing essential assistance with North Carolina's bountiful harvest.

Almost half a million home visits

were provided by our North Carolina home health agencies to homebound individuals, enabling them to avoid expensive nursing home and hospital beds.

Our Human Tissue Donation Program began a donor registration program in November, 1979. Under the new program, all drivers are mailed a brochure which provides a donor card and answers questions commonly asked about organ donation. Receiving the flier approximately six weeks in advance of their license examination, drivers have an opportunity to write to the state's Human Tissue Donation Program for further information. During 1980, a total of 80,835 citizens registered as organ donors. The North Carolina Highway Patrol, local law enforcement agencies, emergency medical service providers, and hospital emergency department staffs are all being informed that an indication on the license means that the individual carries a donor card.

At this point, I'd like to call your attention to a truly remarkable achievement in the field of immunization of our children against preventable communicable diseases.

A major impact upon immunization delivery was brought about by the General Assembly's action in revising the immunization law in 1979. Because the law required a minimum basic series for students in kindergarten through 12th grade, there were large numbers of junior

From the Division of Health Services,
Department of Human Resources
State of North Carolina
Raleigh, N.C. 27602

Presented at the annual meeting of the N.C. Medical Society, Pinehurst, N.C., May 8, 1981.

and senior high school students who received immunizations. More than 750,000 doses of vaccine were given by local health departments during the '79-80 fiscal year. Perhaps a million additional doses were administered by our private physicians across the state during this intensive effort. Immunization assessment data submitted by the public, private and religious schools indicate that 98.1% of kindergarten and first grade students started school already having received the basic series of immunizations. While this kindergarten and first grade reporting has been conducted annually since 1973, this was the first year that information on students in grades 2-12 was available. School reports on these students indicated that 98.4% met minimum immunization requirements.

The year 1980 was an exciting one environmentally for North Carolina, particularly in the area of hazardous waste. New programs were put into motion at both the state and federal levels that will have a significant effect on our environment for years to come. Nationally, the long awaited Resource Conservation and Recovery Act, which was designed to help this country safely manage its hazardous chemical wastes, became the law in every state in the union. Here in North Carolina, a Governor's Task Force on Waste Management conducted an eight month study to determine how we could best manage our own potentially dangerous waste materials. The work of that task force, which was completed in February, has resulted in a bill now before the state legislature.* Its purpose is to ensure that our hazardous and low-level radioactive wastes are safely managed in years to come.

In addition, our own Solid and Hazardous Waste Management Branch has received federal approval to regulate hazardous wastes in North Carolina. We are one of only 16 states authorized to enforce federal hazardous waste laws at the state level.

*The "Hazardous and Low-Level Radioactive Waste Management Act of 1981" was ratified on June 26, 1981.

But hazardous waste was not the only area where your environmental health team made significant contributions during 1980. I would like to take a few minutes now to review with you the progress that section has made in environmental management during the past 12 months.

Our Water Supply Branch is responsible for seeing to it that all public water supplies provide safe drinking water for the populations they serve. On March 14, 1980, the federal government awarded North Carolina primary enforcement responsibility to ensure that our 3,000 community water supplies, everything from the city of Charlotte to a small trailer park, meet the requirements of the state's Safe Drinking Water Act.

Our Vector Control Branch, which is in charge of North Carolina's Mosquito Control Program, also was active in 1980. In August, a cooperative survey involving the state, the Centers for Disease Control, and six local health departments was initiated to determine the extent to which *Aedes aegypti* mosquitoes are breeding within the state. These mosquitoes have become increasingly important in the Southeastern United States since they are the vectors for dengue fever, a viral disease. The spread of dengue has been monitored closely by CDC personnel in the Caribbean and northern Mexico. The first report of dengue transmission in the Continental United States since 1945 occurred in Brownsville, Texas, last fall (September, 1980). North Carolina had one reported case of imported dengue. In addition to its disease vector potential, *Aedes aegypti* are often troublesome pests, apparently preferring the blood of man to that of other animals. Being a semi-domesticated species, breeding is almost exclusively in artificial containers in and around human habitation.

Urban centers surveyed in 1980 by local health department personnel were Charlotte, Durham, Fayetteville, Greensboro, Wilmington and Winston-Salem. The information gained from the fall survey results show that *Aedes aegypti* is

present in the Southern half of the state and at population levels sufficient to support dengue transmission if the disease were to become established in the state.

As you may know, the Mosquito Control Program provides technical and financial aid to local governments that operate programs to reduce mosquito populations within their areas. Last spring, a "Blue Ribbon Committee" was appointed by the state health director to determine how the Mosquito Control Program could be improved, to better protect the health of the people of this state. More emphasis now is being placed on mosquito species, their breeding habitats, and the best methods of control. This study should result in a beneficial effect on the level of services that are provided at both the state and local levels.

Our Sanitation Branch is the lead office for the management of several important public health related programs, including shellfish, milk, food, lodging, institutional sanitation and wastewater and individual waste supply systems.

Since shellfish are often eaten raw or partially cooked, shellfish waters must meet strict microbiological standards, and processing and handling must be closely monitored if health problems are to be avoided. The Sanitation Branch inspects on a regular basis shellfish processing and handling plants, and analyzes shellfish waters to detect any potential health problems. There are currently 327,323 acres on our coast closed to shellfish harvest. Closures are made when bacterial counts exceed the standard and to provide buffer zones in the vicinity of sewage treatment plant outfalls.

Health problems that can occur if restaurants, motels, or institutions are not properly managed also are a major concern of the Sanitation Branch. Thousands of food establishments and places of lodging are inspected each year to guarantee that they are operated in a sanitary manner. Grade "A" milk producers and pasteurization plants likewise are inspected and certified.

Regulation of septic tank systems

continues to be a major activity of the Sanitation Branch staff and over 500 local public health sanitarians. With approximately 39,000 septic tanks installed in 1980 requiring over 107,000 site inspections, North Carolina continues to be among the leading states in septic tank installations. An emphasis on soil and site evaluation procedures rather than just percolation tests to determine suitability for ground absorption systems has significantly reduced failure rates across the state. However, problem areas such as one county with failures estimated at approximately 35%, or 5,000 septic tank systems, indicate that state and local efforts must be intensified if we are to protect our surface and groundwaters from degradation.

The Sanitation Branch, through the research efforts of N.C. State University and the University of North Carolina at Chapel Hill, completed in March 1981 a two-year study related to the movement of bacteria, virus, and nutrients from septic tank systems, in selected coastal plain soils. This study points out vividly that septic tank systems will perform very satisfactorily where they are properly sited but will create both health and environmental hazards if installed in wet soils.

As I mentioned earlier, calendar year 1980 was the most active so far for North Carolina's Hazardous Waste Management Program. Each year approximately 120 million gallons of hazardous waste and 200,000 cubic feet of low-level radioactive waste are generated in North Carolina in the process of meeting its citizens' demands for modern day goods and services. North Carolina ranks as the 11th largest generator of hazardous waste and the fourth largest generator of low-level radioactive waste in the nation. Thanks to the hard work of the Solid and Hazardous Waste Management Branch, ours was one of the first states in the nation and the very first in the south to receive interim authorization to administer the federal Resources Conservation and Recovery Act (RCRA). Under interim authorization North Carolina, not the federal

government, is responsible for enforcing a waste monitoring system that tracks hazardous waste from its point of generation to its ultimate disposal (or from "cradle to grave"). This system ensures that all waste generators are complying with federal and state laws and that they are disposing of their wastes in a safe manner. In addition to inspecting industries to make sure they are operating in compliance with standards set up under RCRA, the Solid and Hazardous Waste Management Branch provides technical assistance to generators.

We are now actively seeking approval from the Environmental Protection Agency (EPA) to issue permits for hazardous waste and treatment facilities. This approval should come later this year. Within three years, the state hopes to have permanent authorization from the EPA to manage all hazardous waste activity in North Carolina. The task is a massive one. As of January of this year, more than 1,000 industries in North Carolina were listed by the EPA as large generators of hazardous waste. Large generators are those industries that produce more than a ton of hazardous waste per month. According to information supplied by the EPA, North Carolina has 1,362 large generators of hazardous waste; 325 transporters of hazardous waste; and 654 treaters, storers, or disposers of hazardous waste. All generators, transporters, treaters, storers and disposers will have to be closely regulated by the Solid and Hazardous Waste Management Branch. The 1,362 generators listed with the EPA include 872 different companies that employ 362,000 people and have an annual payroll of \$5 billion.

Also vital to the state's Hazardous Waste Management Program is the passage of the Hazardous and Low-Level Radioactive Waste Management Act of 1981, now being debated by the North Carolina General Assembly. This bill was introduced by Governor Hunt after eight months of study by a special Governor's Task Force on Waste Management. It is designed to enable North Carolina to safely

and effectively manage its hazardous and low-level radioactive wastes. The three most important parts of the bill call for (1) establishing a waste management board that will continue to seek solutions to hazardous waste problems, and advise the governor on waste management issues; (2) granting to the governor the power of limited preemption; (this will allow the governor to override arbitrary local zoning ordinances, in certain cases, if these ordinances are designed to prohibit the siting of waste management facilities) and (3) granting the state the power to condemn land, with the approval of the council of state, for hazardous waste management facilities.

One of the most worrisome areas of concern for us as it surely must be for all publicly-supported human service programs is that of the availability of future funding. In the spring of 1981, the Division of Health Services is facing a series of fiscal crises, the final outcome of which — though still unknown — will surely mean drastic changes in the administration of public health programs in North Carolina.

In fiscal year 1981, the division's budget (including Lenox Baker and McCain Hospitals) totaled \$124.6 million, of which \$50.5 million was appropriated by the General Assembly, \$62 million was from federal funding sources, and \$12.1 million was from non-federal receipts. Budgeted expenditures in 1981 include approximately \$36.7 million to local health departments for support of locally delivered programs and services. Another \$16 million is budgeted in line-items that purchase physicians' care, hospitalizations, drugs and appliances for eligible patients in the various purchase-of-care programs in the private sector.

The anticipated cuts in the federal budget could significantly reduce support to providers at all levels. Most programs' budgets depend heavily on federal funding. Currently, the news from Washington is that most federally-funded health programs will be consolidated into two or three block grants and will be reduced by 25%. The basic block

grant that has traditionally provided general funding for local departments — title 314 (d) — may be budgeted at zero in 1981-82, resulting in a \$1.6 million loss to North Carolina in that funding source alone.

In addition to the grim future the division faces as a result of federal reductions, shortfalls in state revenue have compounded the resource dilemma. Early in the current legislative session, the Division of Health Services had to identify \$455,000 worth of state-funded positions to be abolished July 1. An additional 30 positions in regional offices are also slated for abolition in an effort to bring the state budget into line. All reductions have been accomplished by reducing *state* personnel and administrative costs — avoiding cuts to local health departments and to other direct service providers. The division is committed to approaching further

cuts with the same goal that has guided us so far — minimizing reductions in direct service to the degree possible.

Every one of the programs mentioned in this report as well all the others precluded from discussion by time require and seek the steadying hand of support and the expertise of North Carolina medical practitioners. To emphasize that point, let me close by offering the words this society heard from state health director Charles O. Laughinghouse of Greenville, himself, incidentally, at the time, a former president of the North Carolina Medical Society. In 1926, exactly 55 years ago, he said, "An intimate acquaintanceship with the problems, satisfactions, dissatisfactions, pleasures, pains, purposes and emoluments of medical men, through the actual doing of their day's work, has begotten in the heart of your executive officer a deep regard, a sense of

companionship in arms, a consideration, a respect for, and above all, a loyalty to the medical profession which will force him to keep an undivided faith with medical men in active practice in North Carolina. May he ask your assistance? May he depend upon your indulgence? May he feel the protection and the confidence which should abide with him through your patient cooperation? May he remind you now that the problems of infection and contagion are fairly well in hand; that the other diseases of infancy, childhood, youth, middle age, and senility can be handled in no way save through the alliance of the board of health and the entire profession of the state. Medical advancement has brought us to where there can be no parting of the ways. Preventive medicine and curative medicine, public health workers and private practitioners must all hang together or they will hang separately."

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ROLFE B. FINN, M.D. Medical Director

ROBERT L. TERRELL, JR. Administrator

Saint Albans Psychiatric Hospital

P.O. Box 3608 Radford, Virginia 24141

National Institutes Of Health

COMMENT:

In a recent issue of this journal, our reasons for not publishing a consensus report from the National Institutes of Health were given. Now we have received another such report which is certainly better done and of considerable potential value to our readers. Testing for cancer antigens promises to become more frequent and more widespread and therefore more costly in the near future. Tumor markers currently under investigation in cancer diagnosis and follow-up include β -glucuronidase, breast-cyst fluid protein (BCFP), colon mucoprotein antigen (CMA), colon-specific antigen (CSAP), galactosyl transferase isoenzyme-II (GT-II), pancreatic oncofetal antigen (POA), prostate-specific antigen (PSA), and zinc glycinate marker (ZGM). CEA, the subject of this discourse, is the only such marker approved for use by the FDA but many drug houses currently have assays waiting to be blessed including sialoglycoprotein, human polypeptide antigen (TAP), α -fetoprotein (AFP), and B-protein. Maugh (*Science* 211:909-910, 1981) reports that a world market approaching \$2 billion for such kits may be with us by 1990. Not only will we be testing for antigens then, but we will be also stressing our clinical judgment and memory if we are offered such a surfeit of diagnostic riches.

J.H.F.

NATIONAL INSTITUTES OF HEALTH CONSENSUS DEVELOPMENT CONFERENCE STATEMENT CEA (CARCINOEMBRYONIC ANTIGEN): ITS ROLE AS A MARKER IN THE MANAGEMENT OF CANCER

A Consensus Development Conference was held at the National

Institutes of Health Sept. 29-Oct. 1, 1980, to address issues concerning the role of the carcinoembryonic antigen (CEA) as a marker in the management of cancer.

At NIH, Consensus Development Conferences bring together biomedical research scientists, practicing physicians, consumers, and others with special interest or knowledge, in an effort to reach general agreement on the scientific evaluation of a medical technology. That technology may be a drug, device, or laboratory, medical, or surgical procedure.

For this Consensus Conference, the members of the panel were limited to biomedical and clinical investigators actively working in the field, clinically involved in patient care, and familiar with the technology under assessment. The panel met following formal presentations and discussions to assess the issues based on the evidence presented. This summary is the result of the panel's deliberations.

INTRODUCTION

Human neoplasms may produce and release into the circulation a variety of substances collectively referred to as tumor markers. The oncofetal antigens comprise one particular group of markers, of which the carcinoembryonic antigen (CEA) has been the most widely studied.

CEA is a glycoprotein of about 200,000 molecular size. It is expressed in significant amounts during embryonic life, especially by the large intestine, and postnatally by carcinomas arising from this site. CEA can be released into the circulation by these tumors and may be measured by sensitive radioimmunoassay and related techniques. Such methods have, however,

demonstrated that small amounts of CEA are also present in the normal adult large intestine and in the blood of healthy subjects.

Subsequent investigations have revealed that many epithelial tumors at other sites may also express CEA and be associated with elevated plasma concentrates. Thus, it may be that the assay of plasma CEA has protean applications in oncology.

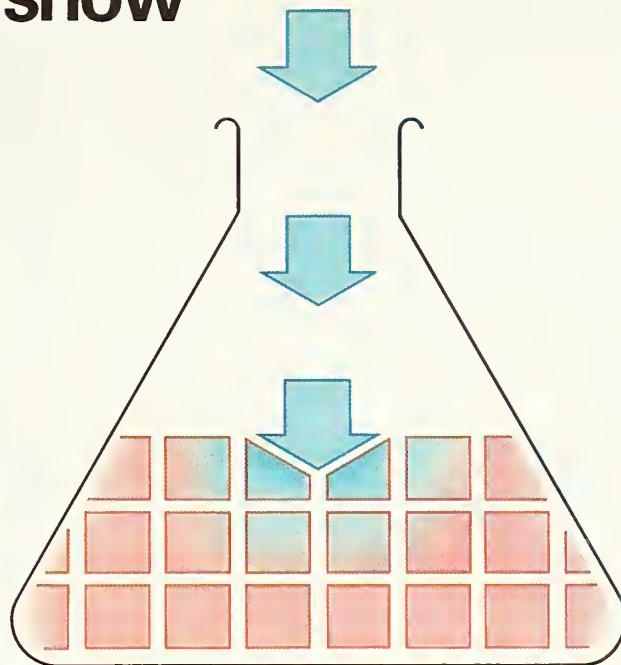
The Consensus Development Panel and members of the audience considered evidence to address the following questions:

1. Should CEA be used in cancer screening?
2. Is CEA helpful in cancer diagnosis?
3. What does CEA tell about the extent and outcome of cancer?
4. Is CEA helpful in monitoring cancer treatment?

PLASMA CEA LEVELS IN HEALTH AND DISEASE

Using the available radioimmunoassay, 2.5 ng/ml is stated to be the upper limit of normal for plasma CEA levels. Values in excess of 2.5 ng/ml may be found in association with cancers, in particular those of the gastrointestinal tract, pancreas, ovary, lung and breast. Similarly raised CEA levels may be detected, however, in cigarette smokers, in patients with benign neoplasms, and in 15% to 20% of subjects with inflammatory disorders such as ulcerative colitis, Crohn's disease, pancreatitis, liver disease and pulmonary infections. Thus, raised plasma CEA values are not specific for cancer, although very high values (for example, above 20 ng/ml) are strongly suggestive of malignancy. It is important that serial assays of CEA be used in reaching a clinical judgment, and not any

***In vitro* data show**



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| Test I | Total Acid-Neutralizing Capacity (mEq) |
|---------------|--|
| Neolin | 16.9 |
| Ascriptin A/D | 11.4 |

| Test II | Total Acid-Neutralizing Capacity (mEq) |
|---------------|--|
| Neolin | 17.0 |
| Ascriptin A/D | 14.5 |

1. Harvey, S.C.: "Gastric antacids and digestants," in Goodman, L.S. and Gilman, A. (eds): *Pharmaceutical Basis of Therapeutics, The*, ed 6, New York: Macmillan Publishing Co., Inc., 1980, p 991.
2. Garnett, W.R.: "Antacids," in Apple, W. (ed): *Handbook of Nonprescription Drugs*, ed 6, Washington, D.C.: American Pharmaceutical Association, 1979, p 6.

*Bristol-Myers Test Method designed to evaluate the acid-neutralizing capacity of buffered aspirin preparations using single tablet samples of NEOLIN and Ascriptin A/D. Each product stirred for 15 minutes in an excess of 0.1N HCl at 25 °C (Test I) and 37 °C (Test II) and back titrated with NaOH to pH 2.8.



BRISTOL-MYERS PROFESSIONAL PRODUCTS

In vivo data show

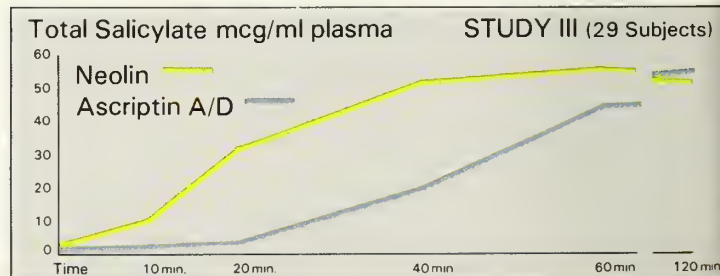
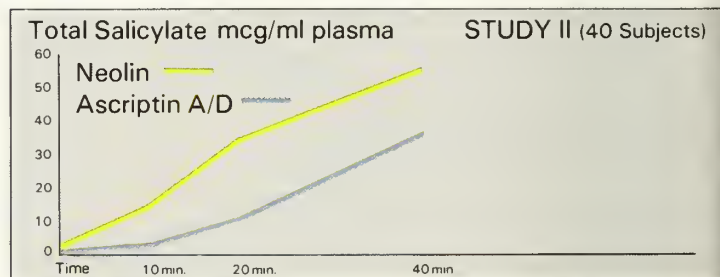
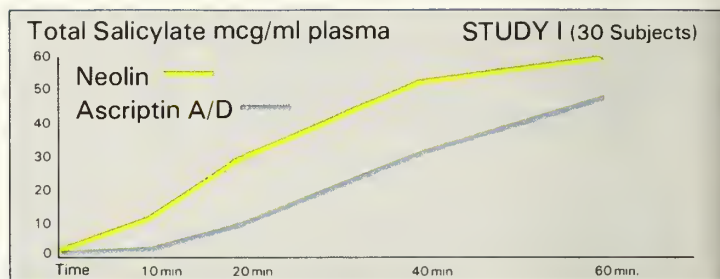


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single determination. The panel believes that each laboratory performing CEA assays should establish its own "normal" range. The recommended upper level of "normal" (2.5 ng/ml) in the population requires additional evaluation. Values cited here are based on the only radioimmunoassay commercially available at the time of the conference, the Hoffman-La Roche assay. Other assay systems may give different results.

CONCLUSIONS AND RECOMMENDATIONS

1. Should CEA be used in cancer screening?

Studies to date have revealed a major overlap in the distribution of plasma CEA values in subjects with inflammatory diseases and benign and malignant tumors of the gastrointestinal tract and of other sites, including breast, bronchus, urothelium, ovary, uterus and cervix. Therefore, the plasma CEA assay does not possess the sensitivity (true-positive rate) or the specificity (true-negative rate) required to discriminate between localized malignant tumors and benign disorders. Consequently, these data, together with the fact that CEA levels may be elevated in smokers, vitiate the use of plasma assays in the screening of an asymptomatic population to the presence of neoplastic disease. The use of CEA to assist with the surveillance of so-called high-risk groups, in whom CEA-producing tumors may develop, remains to be established.

2. Is CEA helpful in cancer diagnosis?

Few prospective studies have been done to determine whether plasma CEA measurement would help to confirm a suspected malignancy in symptomatic patients. In addition, caveats with respect to cancer specificity which limit the test's applicability for screening (raised levels occurring with smoking, non-neoplastic diseases, and benign tumors) are also pertinent in relation to diagnosis in a symptomatic population. Therefore, we cannot recommend, based on current data, that CEA be used inde-

pendently to establish a diagnosis of cancer. However, in a patient with symptoms, gross elevation, greater than 5-10 times the upper limit of the reference normal range for that particular laboratory, should be considered strongly suggestive of cancer in that particular patient. Further diagnostic efforts are obligatory.

3. What does CEA tell about the extent and outcome of cancer?

Many workers have shown that preoperative plasma CEA levels correlate with the clinical stage of disease in several tumor types. Patients with colorectal or possibly bronchogenic carcinomas whose preoperative CEA levels are in the lower range have better survival rates than patients whose levels are above 10 ng/ml. The correlation between increasing plasma CEA levels and progressive cancer is not always exact and a normal CEA cannot be taken as evidence of localized disease or remission. About 15% to 20% of patients with proved malignancies never have elevated plasma levels. Such false negatives may be related to the degree of tumor differentiation. For example, elevated CEA levels occur less often with poorly differentiated than with well differentiated colorectal carcinomas. On the basis of available data, we recommend that plasma CEA be measured preoperatively in patients with either colorectal or bronchogenic carcinomas and be used as an adjunct in clinical and pathological staging.

4. Is CEA helpful in monitoring cancer treatment?

The regular and sequential assay of plasma CEA is the best non-invasive technique for postoperative surveillance of patients to detect disseminated recurrence of colorectal cancer currently available. CEA has been found to be elevated when residual disease is present or is clinically progressing. Following complete excision of such a malignancy, an elevated plasma CEA value usually returns to normal by six weeks. Failure of a reduction of an elevated preoperative CEA titer strongly indicates the presence of residual tumor. CEA

values often become elevated before metastatic disease can be detected by clinical or other diagnostic measures. This information can be best obtained by measuring plasma CEA preoperatively, four to six weeks postoperatively, and at regular intervals thereafter. While slowly rising values may be more indicative of local recurrence, rapidly rising values, particularly in excess of 20 ng/ml, are found most often with hepatic and osseous metastases.

For patients with metastatic tumor, the CEA assay may complement standard clinical measurements of tumor response to therapy. However, as in the case of other laboratory tests, there may be discordance between observed change in tumor mass and corresponding CEA values. In patients with advanced unmeasurable tumor, especially colorectal carcinoma, CEA assays may offer the only index of change in tumor burden. Although definite criteria to aid determining therapy in patients with unmeasurable tumor, based on serial CEA determinations, are not established, it appears that a steadily, markedly rising titer is indicative of a poor therapeutic response. It is important to remember that raised values, due to various causes such as smoking, intercurrent infection, etc., can be seen in patients with clinically stable tumors and that decreasing CEA values are not invariably a sign of successful therapy. Furthermore, a proportion of patients with recurrent or advanced colorectal cancer may not show elevated plasma CEA values.

The role of CEA in the postoperative and therapeutic monitoring of patients with other types of cancer, such as pancreatic, gastric and gynecological neoplasms, is less convincing. In patients with breast malignancies or pulmonary cancer, especially small cell carcinoma of the lung, who present with significant elevations of CEA, changes in CEA titer may be of value in assessing response to chemotherapy.

The panel would like to stress that the clinical utility of a tumor marker may be related to the efficacy of a

therapeutic regimen. Where earlier recognition of disease progression does not result in more effective therapy, no benefit is gained. On the other hand, as more successful treatments for the major tumor types become available, CEA and other tumor markers will be more useful in the management of cancer.

Additional Needs

The panel has identified several areas for future study which should improve the clinical utility of the

CEA assay: the improvement of assay methodology; the evaluation of monoclonal antibodies to CEA for improving assay specificity; the establishment of a laboratory quality control system using a CEA standard preparation; the clinical study of CEA in combination with other markers; the diagnostic role of CEA in biological fluids other than plasma; the individual and collective comparison of CEA with other specific diagnostic modalities; the estimation of tumor CEA content in relation to plasma CEA values; and

the study of the pathophysiology and metabolism of CEA.

The Consensus Conference was sponsored by the National Cancer Institute, assisted by the Office for Medical Applications of Research, Office of the Director, NIH.

Members of the panel: David M. Goldenberg, Sc.D., M.D., (Chairman), University of Kentucky Medical Center, Lexington, Ky.; A. Munro Neville, M.D., Ph.D., Ludwig Institute for Cancer Research, Sutton, Surrey, England; Anne C. Carter, M.D., State University of New York School of Medicine, Brooklyn, N.Y.; Vay Liang W. Go, M.D., Mayo Clinic, Rochester, Minn.; Edward Douglas Holyoke, M.D., Roswell Park Memorial Institute, Buffalo, N.Y.; Kurt J. Isselbacher, M.D., Massachusetts General Hospital, Harvard Medical School, Boston, Mass.; Philip S. Schein, M.D., Vincent T. Lombardi Cancer Research Center, Georgetown University Medical Center, Washington, D.C.; Morton Schwartz, Ph.D., Memorial Sloan-Kettering Cancer Center, New York, N.Y.

Conference Organizers: K. Robert McIntire, M.D. and Louis P. Greenberg, M.S., National Cancer Institute, Bethesda, Md.

The invariable antecedence of the cause, and consequence of the effect, ascertained from many clear and decided observations, are then the principal circumstances to be regarded in determining their nature. These apply to the dead as well as to the living worlds; but as the complexity of the phenomena of the human system is greater than that of surrounding nature; since it consists of masses of organs, each operating on the other, together, and on each other, for a specific purpose, the health and preservation of the whole, it is evident that in proportion to the number of these organs must be the variety produced in the phenomena presented by the causes which derange the system, and the danger of confusion in considering them.

In the sensible phenomena, which are considered by natural philosophy and chemistry, the case is widely different; if one body is propelled against another, immediate motion, if the power is sufficient, is the result; if one planet approaches another, they mutually move towards each other, and the effect is immediate, proportioned to their distance; if two chemical bodies which have an attraction for each other are put into the same menstruum, they act at once upon each other, and the phenomenon there ends.

In every respect, both with regard to the shortness of the time intervening between the cause and effect, as also with regard to the simplicity of the phenomena, which follow the action of causes, there is less obscurity in the inanimate, than in the living world. In health and disease, there is in the living body a regular series of changes, which follow each other in stages, each of which may present a vast variety of phenomena, whose varying features have not yet been recorded: thus, as in the healthy system, the periods of youth, maturity, and decline, succeed each other, each characterized by its appropriate susceptibilities; so in disease there is the same succession of stages: thus, in common inflammation, heat, pain, and redness, form the first; pus characterizes the second, ulceration the third, and the process of healing, the last stage; in the crysipelatous species, heat, pain, and redness, the secretion of water, and lastly, branny scales. In fevers generally, the cold, the hot, and the sweating stages, form the succession. In each of these, however, there is some variety; common inflammation may be arrested, and terminate in resolution, or instead of forming pus, it may end in scirrhus or in gangrene. Erysipelas, instead of being followed by blisters and scales, may also terminate in mortification. The causes of these deviations, however, can sometimes be appreciated; thus, a plethoric and irritable state of the system, may produce mortification, in an inflamed part, or the quantity of the poison absorbed may produce a fever in which a chill does not appear, the hot stage commencing the attack. The regular order, however, of almost every disease, is characterized by a commencement, maturity and decline, and this general feature appears to pervade all the operations of the system. — *Elements of the Theory and Practice of Physic*, by George Gregory, M.D., with notes and additions, adapted to the Practice of the United States, by Nathaniel Potter, M.D., and S. Colhoun, M.D. Vol. I, Philadelphia, Towar & Hogan, 1829.

Correspondence

ACETAMINOPHEN POISONING

To the Editor:

In the article "Toxic Encounters of the Dangerous Kind — Acetaminophen Poisoning," March 1981, NORTH CAROLINA MEDICAL JOURNAL, it is stated that "N-acetylcysteine has not been approved by the FDA for use as an antidote in the poisoning (of acetaminophen): Supervision can be obtained by calling the Rocky Mountain Poison Center toll-free 1-800-525-6115."

This is indeed a true statement. However, the main reason to call this number is to put the patient on the protocol for additional cases in the new drug application to the FDA. This drug can be used without notification of the Rocky Mountain Poison Center and is indeed used without notification on the recommendation of most of the poison control centers in this country. When a physician feels the drug needs to be given, informed consent is all that is necessary. If there are any questions as to the use of N-acetylcysteine (Mucomyst) or the treatment of acetaminophen poisoning in general, any physician may call the Duke Poison Control Center, 919-684-8111. We will be glad to advise and supervise in the use of this antidote and in the treatment of this poisoning.

SHIRLEY K. OSTERHOUT, M.D.
Director, Duke Poison Control Center, and
Assistant Professor of Pediatrics,
Duke University Medical Center
Durham, N.C. 27710

To the Editor:

In response to Dr. Osterhout's letter concerning my article about acetaminophen poisoning, I feel strongly that practitioners in this state should continue to call the Rocky Mountain Poison Center before administering N-acetylcysteine. I say this for the following reasons:

1) This antidote for acetaminophen overdose has not been approved by the FDA for this purpose. The Rocky Mount Poison Center, under the direction of Dr. Barry Rumack and his group, has the IND (investigational new drug) for this drug. They have the protocol for the antidote's use.

2) The Rocky Mountain group has amassed 4,900 cases of acetaminophen overdose and has more experience with this drug and the antidote than any other group in the United States. They have diligently collected these data about this poisoning and its treatment for the health care professionals in the United

States. We owe them something in terms of adding to their data base.

3) The McNeil Consumer Products Company (makers of Tylenol) states: "Since Mucomyst (N-acetylcysteine) has not been approved by the FDA for use as an antidote, except as an investigational drug, supervision *must* be obtained by calling the Rocky Mountain Poison Center's toll-free number 800-525-6115."

4) In *Emergency Medicine*,¹ the renowned toxicologist Dr. Alan Done states: "Since this use (N-acetylcysteine) is still experimental, it's preferable to give the drug under a protocol and an Investigational New Drug exemption; for which supervision is provided by the Rocky Mountain Poison Center. . . ."

5) In *Pediatrics in Review*² (a continuing education journal for pediatricians sponsored by the American Academy of Pediatrics), Drs. F. Lovejoy and Peter Goldman (from the Harvard Medical School) state that practitioners should call the RMPC for direction and protocol inclusion.

6) In *Hospital Physician*,³ Dr. Goldfrank and Kirs-



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tein offer the same advice in their article in acetaminophen toxicity.

7) In March 1981, in Denver when I asked Dr. Barry Rumack when the FDA was going to approve N-acetylcysteine for antidote use, he replied that he had no idea.

I believe that we should continue to communicate with the group with the most experience with this poisoning so that we can help them as they have helped us. We at Bowman Gray School of Medicine, Pediatrics Department, would also be happy to be of assistance to health care personnel in the state who need information concerning acetaminophen poisoning and its treatment.

RONALD B. MACK, M.D.
Associate Professor of Pediatrics
Bowman Gray School of Medicine
Winston-Salem, N.C. 27103

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1. Done A: The toxic emergency — dealing with acetaminophen overdose. *Emergency Med* 13:83-90, 1981.

2. Lovejoy F., Goldman P: Acetaminophen toxicity. *Pediatr in Rev* 1:117-121, 1979.
3. Goldfrank L., Kirstein R: Acute acetaminophen overdose. *Hosp Phys* 16:52-60, 1980.

CAMPHOR POISONING

To the Editor:

I want to give a hearty second to Dr. Ronald Mack's (NORTH CAROLINA MEDICAL JOURNAL, April, 1981) conclusion that camphor has no place in modern medicine and it has to go. The American College of Apothecaries is working very hard to persuade the FDA to remove camphorated oil and all products containing it from the market. Interested physicians should write John T. McElroy, Branch Chief, Neuropharmacologic and Dermatologic Branch, Division of OTC Drug Evaluation, Bureau of Drugs, FDA, Rockville, Md. 20857.

SHIRLEY K. OSTERHOUT, M.D.
Director, Duke Poison Control Center, and
Assistant Professor of Pediatrics,
Duke University Medical Center,
Durham, N.C. 27710

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Everhart, Clyde Hugh, (PUD) 327 Graham-Hopedale Road, P.O. Box 991, Burlington 27215

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Bukhari, Mustao Ahmad, (IM) P.O. Box 700, Valdese 28690
Greene, Walter Leith, Jr., (OBG) 508 Woodbridge Apts., Morganton 28655
Kath, Philip Douglas, (OPH) 335 E. Parker Road, Morganton 28655

CARTERET

Zettl, Matthew Lee, (ORS) 3617 Sunny Drive, Morehead City 28557

CATAWBA

Rudisill, Elbert Andrews, Jr., (FP) Route 10, Box 695, Hickory 28601

COLUMBUS

Glinski, Ronald Peter, (U) 103 E. Main Street, Whiteville 28472

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Bennett, Lawrence North, (STUDENT) 234 Craige Dormitory, Univ. of North Carolina, Chapel Hill 27514
Butler, Wendell DeCamp, (STUDENT) 2509 Englewood Ave., Durham 27705
Colvard, David Fred, (RESIDENT) Box 3812, Duke Medical Center, Durham 27710
Glover, Michael Griffin, (STUDENT) 9 Hickory Downs, Five Oaks Drive, Durham 27705
Tyson, George Walter, (NS) UNC, Neurosurgery, Burnett-Womack Bldg. 229-H, Chapel Hill 27514

FORSYTH-STOKES-DAVIE

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Kilpatrick Timothy Michael, (RESIDENT) 707 Gales Ave., Winston-Salem 27103
Russell, Wilson Glover, (PTH) Forsyth Memorial Hospital, Department of Pathology, Winston-Salem 27103
Spillman, Louis Cromwell, (FP) Route 3, Box 315, Winston-Salem 27105

HAYWOOD

Milling, James R., P.O. Box 398, Hazelwood 28738

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Serene, James William, (ORS) 141 N. Kelly Street, Statesville 28677

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Whitaker, Donald Nash, Jr., (IM) 1201 Woodberry Road, Kinston 28501

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Pigg, William Larry, (RESIDENT) 3129 Windsor Drive, Charlotte 28209
Whitlock, Gary Thomas, III, (RESIDENT) 1540 Garden Terrace, Charlotte 28203

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Hanspal, Prithvi Pal Singh, (U) 171 McArthur Street, P.O. Box 1509, Asheboro 27203

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Beck, Paul, (IM) 401 Foxhall Drive, Ste. 502, Raleigh 27607

WHAT? WHEN? WHERE? In Continuing Education

Please note: 1. The continuing Medical Education Programs at Bowman Gray, Duke, East Carolina and UNC Schools of Medicine, Dorothea Dix, and Burroughs Wellcome Company are accredited by the American Medical Association. Therefore CME programs sponsored or cosponsored by these schools automatically qualify for AMA Category I credit toward the AMA's Physician Recognition Award, and for North Carolina Medical Society Category A credit. Where AAFP credit has been requested or obtained, this also is indicated.

2. The "place" and "sponsor" are indicated for a program only when these differ from the place and source to write "for information."

September 9

"Cancer Day 1981"

Place: Pitt County Memorial Hospital Auditorium, Greenville

Fee: \$50

Credit: 7 hours, AAFP applied for

For Information: F. M. Simmons Patterson, M.D., Assistant Dean for Continuing Medical Education, East Carolina University School of Medicine, Greenville, N.C. 27834

September 15

5th Annual Cape Fear Medical Symposium

"Update in Infectious Diseases"

Place: Bordeaux Motor Inn, Fayetteville

Credit: 7 hours

For Information: Mrs. Mary Henley, Fayetteville Area Health Education Center, P.O. Box 64699, Fayetteville, N.C., 28306 or 919/323-1152

September 16

"Cardiac Rehabilitation and Consequences of Stress"

Place: Central Carolina Hospital, Sanford

Credit: 15 hours

Fee: \$10

For Information: R. S. Cline, M.D., 919/774-4111, Lee County Hospital, Sanford 27330

September 18

"Rocky Mountain Spotted Fever"

Place: Moses Cone Hospital, Greensboro

Credit: 4 hours

For information: Fred Levick, 919-379-4025

September 25-26

"Dermatology for the Non-Dermatologist"

Place: Wilmington Hilton

Credit: 7 hours

Fee: \$50

For Information: W. B. Wood, M.D., Office of Continuing Education, 231 McNider Building, UNC School of Medicine, Chapel Hill 27514 919-933-2118

September 29-October 1

"1981 Duke Cardiac Arrhythmia Course"

Place: Rauch Conference Room, Rm. 15103 — Morris Bldg., Duke South

Credit: 17 hours

Fee: \$175

For Information: Galen Wagner, M.D., Box 31211, Duke Univ. Med. Ctr., Durham 27710 919-681-2255

October 1-2

"Calciton-Biological and Clinical Aspects"

Place: Velvet Cloak Inn, Raleigh

Fee: \$25

Credit: 7 hours

For Information: William Wood, M.D. 231 McNider Building, UNC School of Medicine, Chapel Hill 27514 919-933-2118

October 1-3

"Natural Abilities and Perceived Worth: Rights, Values and Retarded Persons"

12th Symposium on Philosophy and Medicine

Place: Greenville

For Information: Loretta Kopelman, ECU School of Medicine, Greenville 27834 919-757-4624

October 1-4

The 1981 Duke University Invitational Assembly for Advanced Urology

"Diseases of the Lower Urinary Tract"

Place: Pinehurst Hotel and Country Club

For Information: David F. Paulson, M.D., Duke Univ. Med. Ctr., Durham 919-684-2033

October 3-4

"Pediatric-Gynecology and Adolescent Sexuality"

Place: Wrightsville Beach

Fee: \$125

Credit: 12 hours

For Information: William Wood, M.D. 919-933-2118

October 7-8

"21st Annual Charlotte Postgraduate Seminar"

Place: Charlotte Memorial Hospital

Fee: None

Credit: 12 hrs.

For Information: C. Whit Blount, Jr., M.D., Shamrock Family Practice Clinic, 3616 Michigan Avenue, Charlotte, N.C. 28215, 704-537-6952

October 7

"Surgical Update for Primary Care Physicians"

Place: Pitt County Memorial Hospital Auditorium, Greenville

Fee: \$50

Credit: 6 hours, AAFP applied for

For Information: F. M. Simmons Patterson, M.D., Assistant Dean for Continuing Medical Education, East Carolina University School of Medicine, Greenville 27834

October 9

"11th Annual Seminar in Medicine (Hypertension)"

Place: Bowman Gray School of Medicine

Credit: 6 hours

Fee: \$60

For Information: Emery C. Miller, M.D., 300 S. Hawthorne Road, Bowman Gray School of Medicine, Winston-Salem 27103 919-748-4450

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Greensboro (919) 274-1538

Greenville (919) 752-5847

Member Child Welfare League of America. Founded 1902.

October 21-22

"Office Treatment of Depression"

Place: Carolina Inn, Chapel Hill

Fee: \$20

For Information: J. Ingram Walker, M.D., Dept. of Psychiatry, 508
Fulton Street, Durham 27705 919-286-4011, Ext. 6651

October 22

"Headache"

Place: Burroughs Wellcome, Research Triangle Park

Credit: 4 hours

Fee: None

For Information: Mrs. Sandy Foster 919-541-9090

October 22-23

"Pediatric Pathology Club"

Place: Duke Univ. Medical Center

Credit: 16 hours

Fee: \$120

For Information: William D. Bradford, M.D., Box 3712, Duke
Univ. Med. Ctr., Durham 27710

October 25-26

"Technique of Pacemaker Implantation & New Types"

Place: Bowman Gray School of Medicine

Credit: 9 hours

Fee: \$60

For Information: Emery C. Miller, M.D., 300 South Hawthorne
Street, Bowman Gray School of Medicine, Winston-Salem 27104
919-748-4450

October 30-31

"Understanding and Treatment of the Aggressive Adolescent"

Place: Searle Center for Continuing Education, Duke University
Medical Center

Credit: 11 hours

Fee: \$175

For Information: J. Ingram Walker, M.D., Duke University Medi-
cal Center 919-684-2711, Ext. 303

October 30-31

"14th Annual Malignant Disease Symposium on Abdominal and Extremity Tumors"

Place: UNC School of Medicine

Credit: 11 hours

Fee: \$100

For Information: Mimi Minkoff, Cancer Research Center, Box 30
MacNider Bldg., Chapel Hill 27514

October 31-November 2

"Advanced Cardiac Life Support Instructors Course"

Place: Bowman Gray School of Medicine

Credit: 22 hours

Fee: \$300

For Information: Emery C. Miller, M.D., 919-748-4450

November 6

"Alumni Scientific Sessions"

Place: Bowman Gray School of Medicine

Credit: 6 hours

Fee: None

For Information: Emery C. Miller, M.D. 919-748-4450

November 20-23

"Multiple Sclerosis for Practicing Physicians"

Place: Duke University Medical School

Credit: 9 hours

Fee: \$10

For Information: Allen D. Roses, M.D. 919-683-6274

IN CONTIGUOUS STATES

September 3-4

"Advances in Clinical Nutrition"

Place: Sea Pines Resort, Hilton Head Island, South Carolina

For Information: Julie Bishop, A.S.P.E.N., Suite 810, 1025 Ver-
mont Avenue, N.W., Washington, D.C. 20005 202-638-5881

September 25

"Environmental Insults to the Fetus and the Newborn"

Place: Richmond Hyatt, Richmond, Va.

For Information: Kathy E. Johnson 804-786-0494

October 30-31

"Allergy and Immunology for the Clinician"

Place: Hyatt-Hilton Head Island, S.C.

Credit: 14 hours

For Information: A. J. Kimber, American Academy of Allergy, 611
East Wells Street, Milwaukee, WI 53202 414/272-6071

The items listed in the above column are for the six months
immediately following the month of publication. Requests for listing
should be received by "WHAT? WHEN? WHERE?", P.O. Box
27167, Raleigh 27611, by the 10th of the month prior to the month in
which they are to appear. A "Request for Listing" form is available
on request.

AUXILIARY TO THE NORTH CAROLINA MEDICAL SOCIETY

AMA AUXILIARY 1981 CONVENTION

June 7-10, 1981

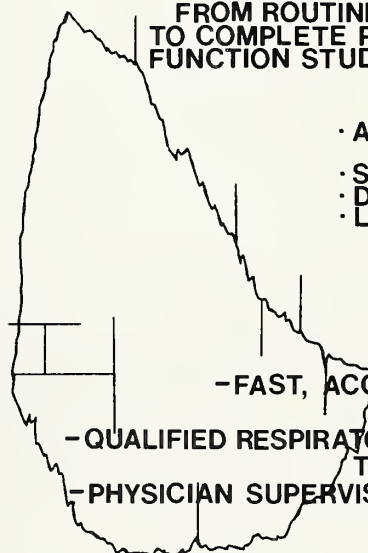
National AMA Auxiliary leaders have the perfect
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mination as 343 national and state delegates gathered
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Eighteen delegates, alternates and guests, including
Mona Sauls, our new Executive Secretary, ably rep-
resented North Carolina in Chicago, June 7-10. These

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women graciously appeared for 7:00 a.m. caucus calls and held up throughout a steady pace of meetings and events.

We are always treated to speakers of national stature and this meeting was no exception. Senator Paula Hawkins of Florida lightheartedly told us what it is like to be one of two women in the Senate and the first with a husband.

George Will, leading columnist and contributing editor for *Newsweek*, held our attention with his insightful comments regarding medicine for and in the economy. Commenting on a "fundamental, glacial shift in American politics," he described the government as "the disease for which it pretends to be the cure." He believes that people now fear that we are killing the goose that laid the golden egg, and that "given the nature of the economy and current pressures on it from the public sector . . . there is a public understanding that we have passed a healthy point in making promises to ourselves through the public mechanisms of this welfare state." He says we are beginning to face great structural changes in America and mindboggling financial problems having to do with the "aging" of the country. And there will be continued painful adjustments of public promises. He pointed out that it's clear that the American people are most of all nervous about catastrophic illness — not basic things, and that they are increasingly mature about the difference between health and medicine. He said that our group forms a nucleus, as community leaders, of a revolution of public understanding about healthy living. Mr. Will also believes that given the current shifts and political realities, no man in national public life will make a serious attempt to add a national health program to the enormous structure that exists.

"Stress is both friend and foe" according to Dr. Robert S. Eliot who entertained with personal wit and cartoons as he gave a serious message regarding managing 20th century stress. He believes that today's woman may be more stressed than man. His word for women, caught in a profusion of complicated role models, "It's OK to be what is OK with you." And, in handling stress, "can't fight, can't flee — flow."

Reactions were widely varied to a symposium, "History of a Medical Marriage," presented by Dr. Gordon Deckert and his wife, Jane Chew Deckert, from the University of Oklahoma Department of Psychiatry. Fun included a grand performance of *Peter Pan* with Sandy Duncan. There was a smashing final curtain call when she was "flown" high out over the audience.

Official auxiliary business will be reported in *Facets*. Mary Ellen Vaughn completed her presidential year expressing the hope that we will continue to work in a "family spirit" and with the personal touch. A few 1981 highlights she noted are: increased usage of and 70 new entries in the Project Bank (bringing the total to 900 projects), more auxiliaries working in partnership with their medical societies; AMA-ERF raised \$1,692,345.03 (nearly \$90,000 more than last year); 15 states increased membership (but not North

CYCLAPEN®-W (cyclacillin)

Indications

Cyclacillin has less *in vitro* activity than other drugs in the ampicillin class and its use should be confined to these indications: Treatment of the following infections:

RESPIRATORY TRACT

Tonsillitis and pharyngitis caused by Group A beta-hemolytic streptococci
Bronchitis and pneumonia caused by *S. pneumoniae* (formerly *D. pneumoniae*)
Otitis media caused by *S. pneumoniae* (formerly *D. pneumoniae*) and *H. influenzae*
Acute exacerbation of chronic bronchitis caused by *H. influenzae**

*Though clinical improvement has been shown, bacteriologic cures cannot be expected in all patients with chronic respiratory disease due to *H. influenzae**

SKIN AND SKIN STRUCTURES (integumentary) infections caused by Group A beta-hemolytic streptococci and staphylococci, non-penicillinase producers.

URINARY TRACT INFECTIONS caused by *E. coli* and *P. mirabilis*. (This drug should not be used in only *E. coli* and *P. mirabilis* infections other than urinary tract.)

NOTE: Perform cultures and susceptibility tests initially and during treatment to monitor effectiveness of therapy and susceptibility of bacterio. Therapy may be instituted prior to results of sensitivity testing.

Contraindications Contraindicated in individuals with history of an allergic reaction to penicillins

Warnings Cyclacillin should only be prescribed for the indications listed herein.

Cyclacillin has less *in vitro* activity than other drugs of the ampicillin class. However, clinical trials demonstrated it is efficacious for recommended indications.

Serious and occasional fatal hypersensitivity (anaphylactoid) reactions have been reported in patients on penicillin. Although anaphylaxis is more frequent following parenteral use, it has occurred in patients on oral penicillins. These reactions are more apt to occur in individuals with history of sensitivity to multiple allergens. There are reports of patients with history of penicillin hypersensitivity reactions who experienced severe hypersensitivity reactions when treated with a cephalosporin. Before penicillin therapy, carefully inquire about previous hypersensitivity reactions to penicillins, cephalosporins and other allergens. If allergic reaction occurs, discontinue drug and initiate appropriate therapy. Serious anaphylactoid reactions require immediate emergency treatment with epinephrine. Oxygen, I.V. steroids, airway management, including intubation, should also be administered as indicated.

Precautions Prolonged use of antibiotics may promote overgrowth of nonsusceptible organisms. If superinfection occurs, take appropriate measures.

PREGNANCY Pregnancy Category B. Reproduction studies performed in mice and rats at doses up to 10 times the human dose revealed no evidence of impaired fertility or harm to the fetus due to cyclacillin. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, use this drug during pregnancy only if clearly needed.

NURSING MOTHERS. It is not known whether this drug is excreted in human milk. Because many drugs are, exercise caution when cyclacillin is given to a nursing woman.

Adverse Reactions Oral cyclacillin is generally well tolerated. As with other penicillins, untoward sensitivity reactions are likely, particularly in those who previously demonstrated penicillin hypersensitivity or with history of allergy, asthma, hay fever, or urticaria. Adverse reactions reported with cyclacillin: diarrhea (in approximately 1 out of 20 patients treated), nausea and vomiting (in approximately 1 in 50), and skin rash (in approximately 1 in 60). Isolated instances of headache, dizziness, abdominal pain, vaginitis, and urticaria have been reported. (See WARNINGS) Other less frequent adverse reactions which may occur and are reported with other penicillins are anemia, thrombocytopenia, thrombocytopenic purpura, leukopenia, neutropenia and eosinophilia. These reactions are usually reversible on discontinuation of therapy.

As with other semisynthetic penicillins, SGOT elevations have been reported.

As with antibiotic therapy generally, continue treatment of least 48 to 72 hours after patient becomes asymptomatic or until bacterial eradication is evidenced. In Group A beta-hemolytic streptococcal infections, at least 10 days' treatment is recommended to guard against risk of rheumatic fever or glomerulonephritis. In chronic urinary tract infection, frequent bacteriologic and clinical appraisal is necessary during therapy and possibly for several months after. Persistent infection may require treatment for several weeks.

Cyclacillin is not indicated in children under 2 months of age.

Patients with Renal Failure Cyclacillin may be safely administered to patients with reduced renal function. Due to prolonged serum half-life, patients with various degrees of renal impairment may require change in dosage level (see DOSAGE AND ADMINISTRATION in package insert).

Dosage (Give in equally spaced doses)

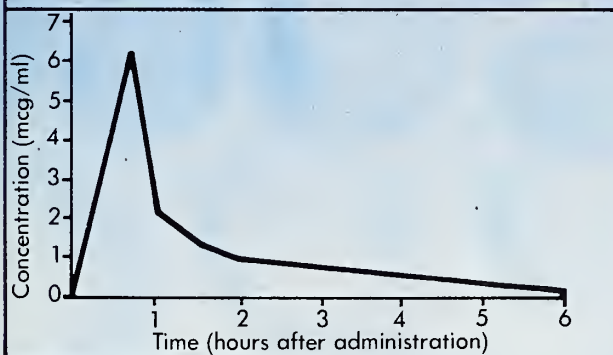
| INFECTION | ADULTS | CHILDREN* |
|-----------------------------|--------------------------|--|
| Respiratory Tract | | |
| Tonsillitis & Pharyngitis | 250 mg q.i.d. | body weight < 20 kg (44 lbs) 125 mg q.i.d. body weight > 20 kg (44 lbs) 250 mg q.i.d. |
| Bronchitis and Pneumonia | | |
| Mild or Moderate Infections | 250 mg q.i.d. | 50 mg/kg/day q.i.d. |
| Chronic Infections | 500 mg q.i.d. | 100 mg/kg/day q.i.d. |
| Otitis Media | 250 mg to 500 mg q.i.d.† | 50 to 100 mg/kg/day† |
| Skin & Skin Structures | 250 mg to 500 mg q.i.d.† | 50 to 100 mg/kg/day† |
| Urinary Tract | 500 mg q.i.d. | 100 mg/kg/day |

*Dosage should not result in a dose higher than that for adults.
†depending on severity

Half the dose
is absorbed in 9 minutes!
compared to 32 minutes for ampicillin.*



Mean blood levels in mcg/ml after 250 mg cyclacillin single oral dose



- Rapid, virtually complete absorption from GI tract
- Exceptionally high peak blood levels – 3 times greater than ampicillin (Clinical efficacy may not always correlate with blood levels.)
- Rapidly excreted unchanged in urine – 1½ times faster than ampicillin

*Based on $T^{1/2}$ values for single oral doses of 500 mg cyclacillin tablet and 500 mg ampicillin capsule. Data on file, Wyeth Laboratories.

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Fewer episodes of diarrhea and rash than with ampicillin in studies to date.

Efficacy proven in the treatment of bronchitis, pneumonia, and upper respiratory infections.†

In 117 patients, 73 with bronchitis/pneumonia caused by *S. pneumoniae* and 44 with streptococcal sore throat caused by Group A beta-hemolytic streptococcus, CYCLAPEN®-W achieved a clinical response rate of 100%! Bacterial eradication was 95% and 86% respectively.

†Due to susceptible organisms.

See important information on facing page.

CYCLAPEN®-W
(cyclacillin) 250 and 500 mg Tablets
125 and 250 mg per 5 ml Suspension

more than just spectrum

NEW
NAME

Carolina) and Resident Physician Spouses and Medical Student Spouses (RPS/MSS) tripled to more than 1,000 members.

And last, but far from least, we have a new auxiliary president — Isobel Dvorsky. Those of you who saw her in Southern Pines in May recognized an exceptional lady in every sense of the word. With grace and intelligence she will guide this organization she calls medicine's newest "specialist." She feels the auxiliary has the special ability to lead others in matters

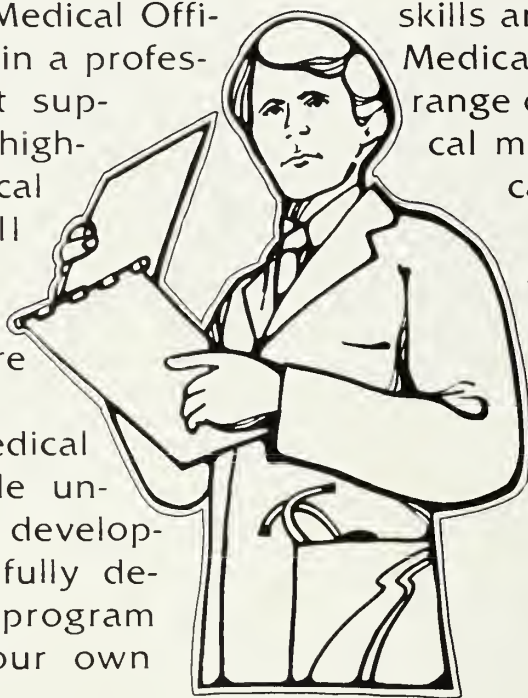
that relate to health, "because we have channels for getting information, finding out what needs to be done and helping to motivate others to act." We are challenged by her interpretation of our organization as one with a "powerhouse potential," ready and waiting to be discovered by AMA, state and county medical societies.

Isobel Dvorsky believes in the volunteer, and richly communicates her vision of a changed Auxiliary image and mission — she gives good reason for every

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doctor's wife continuing to give the auxiliary high priority. This was a first class meeting and if any of you can participate another year, I highly recommend you head for Chicago for the national AMA Auxiliary conclave.

Eleanor Hunt (Mrs. O. Raymond)
President Elect
North Carolina Medical Society Auxiliary

News Notes from the

UNIVERSITY OF NORTH CAROLINA- CHAPEL HILL SCHOOL OF MEDICINE AND NORTH CAROLINA MEMORIAL HOSPITAL

New nurseries for both healthy and sick infants, ultramodern labor and delivery rooms and attractive accommodations for new mothers were dedicated June 6 at North Carolina Memorial Hospital.

Governor Jim Hunt was the main speaker at the dedication ceremony.

N.C. Memorial Hospital is one of the state's 10 regional referral centers for critically ill newborns and women with complicated pregnancies.

The new facilities include a Neonatal Intensive Care Unit with special equipment for sick and premature newborns, an Intermediate Care Nursery for less critically ill infants, as well as a large Newborn Nursery for normal, healthy babies.


The new Robert A. Ross Obstetrical Unit, named for the first chairman of obstetrics and gynecology here, will more than double the amount of space devoted to obstetrical care.

* * *

Better health care for the elderly in North Carolina and better understanding of the problems of old age are goals of a new Program on Aging established by the School of Medicine.

Dr. Stuart Bondurant, dean of the School of Medicine, said the program will give focus to the institution's "ongoing commitment to develop effective programs of teaching, research and health care in the field of aging."

Bondurant announced the appointment of Dr. Paul Beck, professor of medicine, as director of the Program on Aging. Beck has served for the past year as director of the medical teaching service at the medical



An apple a day won't keep alcoholism away!

The alcoholic presents unique, baffling problems in medical practice. So does the person addicted or dependent on narcotics, tranquilizers, sedatives or stimulants. We specialize in acute care and long-term treatment of these conditions, offering a minimum 28-day program.

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J.C.A.H. ACCREDITED

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is the presenting
symptom...**

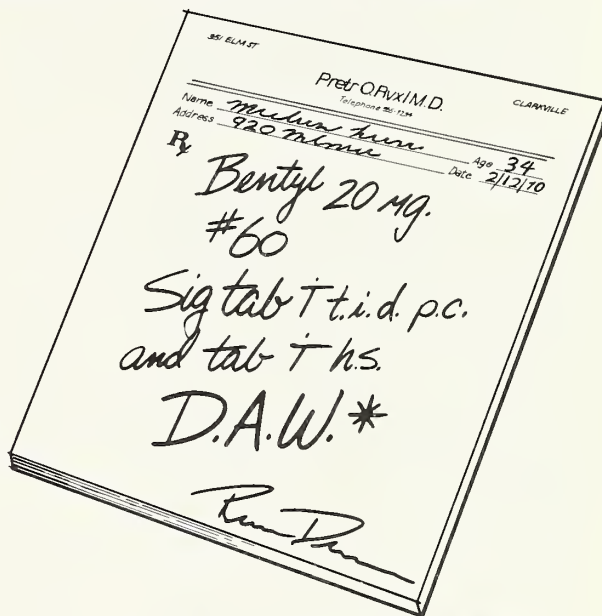


...in the functional bowel/irritable bowel syndrome*

be sure to specify

Bentyl[®]
(dicyclomine hydrochloride USP)

10 mg capsules, 20 mg tablets,
10 mg/5 ml syrup, 10 mg/ml injection



**D.A.W.-Dispense as written*

because:

- ⊕ The Bentyl molecule is a product of original Merrell research.
- ⊕ At Merrell Dow, Bentyl must go through 140 checkpoints/tests from its synthesis through the packaging of the final product.
- ⊕ Bentyl bioavailability of tablets, capsules, syrup and injectable is evidence of its prompt absorption.
- ⊕ Bentyl helps control abnormal gastrointestinal motor activity with minimal anticholinergic side effects. (See Warnings, Contraindications, Precautions, and Adverse Reactions on next page.)
- ⊕ The bioequivalence of the oral dosage forms permits a choice of tablet, capsules, or syrup that satisfies patient's dosage preferences.
- ⊕ Significant pharmacologic effect in the distal colon compared to placebo,¹ shows how Bentyl controls abnormal motor activity in the irritable colon patient.*

*This drug has been classified "probably" effective for this indication.

Merrell Dow

Reference:
1. Chowdhury AR and Lorber SH: Personal communication, 1980.

(See Product Information on the next page before prescribing Bentyl.)

Although the dose of Bentyl used to show pharmacologic effect was 50 mg, which is a higher single dose than that permitted in the labeling, the dose was considered justified, since the recommended daily dose of injectable Bentyl is 20 mg (2 ml) every 4 to 6 hours. Thus, in 8 hours, a patient could receive a total of 60 mg I.M. and, at that time, as a result of the sustained plasma levels from the 20 mg injections at 0 and 4 hours, might show an even higher plasma level than occurs after a single 50 mg dose. Presumably, the same pharmacologic effect would follow. These observations do not constitute evidence of efficacy.

Bentyl® (dicyclomine hydrochloride USP)

Capsules, Tablets, Syrup, Injection
AVAILABLE ONLY ON PRESCRIPTION
Brief Summary

INDICATIONS

Based on a review of this drug by the National Academy of Sciences-National Research Council and/or other information, FDA has classified the following indications as "probably" effective

For the treatment of functional bowel/irritable bowel syndrome (irritable colon, spastic colon, mucous colitis) and acute enterocolitis

THESE FUNCTIONAL DISORDERS ARE OFTEN RELIEVED BY VARYING COMBINATIONS OF SEDATIVE, REASSURANCE, PHYSICIAN INTEREST, AMELIORATION OF ENVIRONMENTAL FACTORS

For use in the treatment of infant colic (syrup)

Final classification of the less-than-effective indications requires further investigation

CONTRAINDICATIONS: Obstructive uropathy (for example, bladder neck obstruction due to prostatic hypertrophy); obstructive disease of the gastrointestinal tract (as in achalasia, pyloroduodenal stenosis); paralytic ileus, intestinal atony of the elderly or debilitated patient, unstable cardiovascular status in acute hemorrhage, severe ulcerative colitis, toxic megacolon complicating ulcerative colitis, myasthenia gravis

WARNINGS: In the presence of a high environmental temperature, heat prostration can occur with drug use (fever and heat stroke due to decreased sweating). Diarrhea may be an early symptom of incomplete intestinal obstruction, especially in patients with ileostomy or colostomy. In this instance treatment with this drug would be inappropriate and possibly harmful. Bentyl may produce drowsiness or blurred vision. In this event, the patient should be warned not to engage in activities requiring mental alertness such as operating a motor vehicle or other machinery or perform hazardous work while taking this drug. There are rare reports of infants, 6 weeks of age and under, administered dicyclomine hydrochloride syrup, who have evidenced respiratory symptoms (breathing difficulty, shortness of breath, breathlessness, respiratory collapse, apnea), as well as seizures, syncope, asphyxia, pulse rate fluctuations, muscular hypotonia, and coma. The above symptoms have occurred within minutes of ingestion and lasted 20 to 30 minutes. The timing and nature of the reactions suggest that they were a consequence of local irritation and/or aspiration rather than a direct pharmacologic effect. No known deaths or permanent adverse effects have been reported. Bentyl syrup should be used with caution in this age group.

PRECAUTIONS: Although studies have failed to demonstrate adverse effects of dicyclomine hydrochloride in glaucoma or in patients with prostatic hypertrophy, it should be prescribed with caution in patients known to have or suspected of having glaucoma or prostatic hypertrophy.

Use with caution in patients with:

Autonomic neuropathy. Hepatic or renal disease. Ulcerative colitis. Large doses may suppress intestinal motility to the point of producing a paralytic ileus and the use of this drug may precipitate or aggravate the serious complication of toxic megacolon.

Hyperthyroidism; coronary heart disease, congestive heart failure, cardiac arrhythmias, and hypertension.

Hiatal hernia associated with reflux esophagitis since anticholinergic drugs may aggravate this condition.

Do not rely on the use of the drug in the presence of complication of biliary tract disease. Investigate any tachycardia before giving anticholinergic (atropine-like) drugs since they may increase the heart rate. With overdosage, a curare-like action may occur.

ADVERSE REACTIONS: Anticholinergics/antispasmodics produce certain effects which may be physiologic or toxic depending upon the individual patient's response. The physician must delineate these. Adverse reactions may include xerostomia, urinary hesitancy and retention, blurred vision and tachycardia, palpitations, mydriasis, cycloplegia, increased ocular tension; loss of taste; headache, nervousness, drowsiness, weakness, dizziness, insomnia, nausea, vomiting, impotence, suppression of lactation, constipation, bloated feeling, severe allergic reaction or drug idiosyncrasies including anaphylaxis, urticaria and other dermal manifestations; some degree of mental confusion and/or excitement, especially in elderly persons; and decreased sweating. With the injectable form there may be a temporary sensation of light-headedness and occasionally local irritation.

DOSEAGE AND ADMINISTRATION: Dosage must be adjusted to individual patient's needs.

Usual Dosage

Bentyl 10 mg. capsule and syrup. **Adults:** 1 or 2 capsules or teaspoonfuls syrup three or four times daily. **Children:** 1 capsule or teaspoonful syrup three or four times daily. **Infants:** ½ teaspoonful syrup three or four times daily. (Dilute with equal volume of water.)

Bentyl 20 mg. **Adults:** 1 tablet three or four times daily.

Bentyl Injection. **Adults:** 2 ml (20 mg.) every four to six hours intramuscularly only.

NOT FOR INTRAVENOUS USE

MANAGEMENT OF OVERDOSE: The signs and symptoms of overdose are headache, nausea, vomiting, blurred vision, dilated pupils, hot, dry skin, dizziness, dryness of the mouth, difficulty in swallowing, CNS stimulation. Treatment should consist of gastric lavage, emetics, and activated charcoal. Barbiturates may be used either orally or intramuscularly for sedation but they should not be used if Bentyl with Phenobarbital has been ingested. If indicated, parenteral cholinergic agents such as Urecholine® (bethanechol chloride USP) should be used.

Product Information as of July, 1980

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* * *

One hundred and sixty new physicians were honored May 17 at the School of Medicine's annual Hooding Ceremony. The class of 1981 includes 13 who completed M.D. degree requirements last December and one who finished last August.

Some 61% of this year's medical graduates are entering training in primary care, including 31% in internal medicine, 12% in family medicine and 9% each in pediatrics and obstetrics and gynecology.

More than two-thirds of those participating in the National Residency Matching Program were placed in the program of their first or second choice; 50% were matched with their first choice and 19% with their second. Approximately three-fourths were placed among their top three choices.

Forty-seven new physicians are remaining in North Carolina for graduate training, 25 of whom will enter residencies at North Carolina Memorial Hospital.

* * *

Sixty-six students participated in the Medical Education Development (MED) Program offered by the schools of medicine and dentistry for students from disadvantaged backgrounds who have shown potential for professional school.

Now in its 14th year, the eight-week program simulates the experiences of beginning medical and dental students, according to Evelyn B. McCarthy, director. This year's participants included 58 students from North Carolina and eight from other states. Sixty of the students, are from ethnic minority groups, including 54 who are black.

Thirty-one graduate institutions were represented, including 20 in North Carolina, 12 of the Consolidated University of North Carolina.

* * *

The Hearing and Speech Center at North Carolina recently acquired a new computer which can map the path of nerve impulses from the ear to the brain, according to William G. Thomas, director of the center.

The new machine, an auditory evoked response system, can be used to measure a patient's reaction to sound as nerve impulses travel through the auditory nerve to the brain.

Data collected can be used to diagnose deafness, disease in the inner ear, failure of a stimulus to travel normally to the brain, or abnormal responses in the brain itself. It also can be used to determine differences in processing between the right and left ear.

* * *

With just one phone call, a doctor anywhere in North Carolina now can find out which of the state's newborn intensive care nurseries has room for the sick baby he needs to refer.

A new computer-based communications network keeps personnel at 10 centers for sick and premature infants up-to-date on the availability of beds and special equipment at each of the other centers. So, if the first nursery a doctor calls is unable to take another baby, he can be referred immediately to the next closest nursery that has an empty bed.

A computer housed in the School of Medicine controls the Neonatal Tele-communications Network. It is linked by telephone to computer terminals in each of the intensive care nurseries, so that information can be passed instantly from one nursery to another.

Personnel in each nursery routinely feed into the network current information that referring doctors need to know, including: the availability of beds for both sick newborns and women with high-risk pregnancies who may have sick babies, access to special medical equipment, whether transportation can be provided, and the and phone number of the person to call about referring patients.

The network was developed by three UNC-CH medical scientists: biomedical engineers James Bostick and Dr. Henry Hsiao and pediatrician Dr. Edward Lawson.

The network has been in operation since early March, and one hospital, Southeastern General Hos-

pital in Lumberton, still has to be tied in. So far, Lawson said, the system seems to be working well.

The 10 intensive care nurseries that currently make up the communication network are located at the following hospitals; Memorial Mission Hospital, Asheville; Charlotte Memorial Hospital, Charlotte; N.C. Baptist Hospital, Winston-Salem; Moses H. Cone Memorial Hospital, Greensboro; N.C. Memorial Hospital, Chapel Hill; Duke University Hospital, Durham; Wake County Medical Center, Raleigh; Southeastern General Hospital, Lumberton; Pitt County Memorial Hospital, Greenville; and New Hanover Memorial Hospital, Wilmington.

* * *

Medical students here honored a number of their teachers during the School of Medicine's annual awards and skits program in April.

The faculty and housestaff winners and their awards were: Dr. W. Paul Biggers, The Professor Award; Dr. Lloyd R. Yonce, Medical Basic Science Teaching Award; Dr. James F. Donohue, Central Carolina Bank Excellence in Teaching Award; Dr. Stephen Ray Mitchell, Henry C. Fordham Award, and Dr. Lyle Spencer Saltzman, Outstanding Intern Award.

Biggers, J. P. Riddle Distinguished Professor of

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Otolaryngology, was voted "Professor of the Year" by the senior class of the medical school. This award has been presented since 1950 by the graduating class to the faculty member "who by his willingness, understanding and ability has contributed most to our medical education."

Biggers joined the medical school faculty in 1967. He is a 1959 graduate of Davidson College and earned his M.D. degree from UNC-CH in 1963. He is a former winner of the CCB Excellence in Teaching Award.

The Basic Science Teaching Award, presented to Yonce, associate professor of physiology, was established by the second-year class of 1965. It honors a faculty member from the basic medical sciences "who has contributed in a particularly effective way and devoted manner to their education."

Yonce, whose teaching specialty is cardiovascular physiology, joined the faculty in 1957. He earned a B.S. degree in 1949 from Montana State University, and M.S. in 1952 from Oregon State University and a Ph.D. in 1955 from the University of Michigan.

Donohue, last year's winner of The Professor Award, was selected by the entire student body to receive the CCB Excellence in Teaching Award this year. The award, which carries a stipend of \$1,000, was established in 1973 by the Central Carolina Bank.

He was appointed to the faculty in 1976 as an in-

structor of medicine and has been an assistant professor since 1977. A 1965 graduate of St. Peter's College in New Jersey, he received his M.D. degree in 1969 from the New Jersey College of Medicine.

The Henry C. Fordham and Outstanding Intern awards are given to members of the housestaff at North Carolina Memorial Hospital.

The Fordham Award won by Mitchell, a resident in medicine, is given annually to a resident "in recognition of his qualities of patience, humility and devotion to medicine as were possessed by Dr. Fordham." Henry Fordham was a brother of Dr. Christopher C. Fordham III, chancellor of the University.

The Outstanding Intern Award, presented this year to Saltzman, an anesthesiology resident, is given by the second-year class to the intern they select as the most helpful to their class.

Both Mitchell and Saltzman are graduates of the School of Medicine, earning their M.D. degrees in 1976 and 1980, respectively.

* * *

Presented each year to a resident in the Department of Surgery, this year the Nathan A. Womack award was shared by Dr. James W. Battaglini, chief resident in general surgery, and Dr. Ritchie P. Gillespie, chief resident in neurological surgery. The winners were

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announced June 6 at the annual surgical residents' party.

The award first given in 1969, was established by friends, associates and students of the late Dr. Nathan A. Womack, former Kenan professor and chairman of surgery.

It is presented for general excellence in teaching, investigation and patient care to surgical residents in recognition of overall contributions to the residency program and the department of surgery.

* * *

The School of Medicine has received \$8,512.63 from the American Medical Association Education and Research Foundation.

The gift was presented during the annual meeting of the North Carolina Medical Society in May in Pinehurst. The AMA Education and Research Foundation, which is supported by individual physicians, AMA Auxiliary members and others throughout the country, makes donations each year to the state's medical schools through the N.C. Medical Society.

Dr. Stuart Bondurant, dean of the School of Medicine, said the money will be used for special educational, research and operational needs of the medical school which are not otherwise funded.

The check was presented by Mrs. C. L. Nance of Wilmington, AMA-ERF chairman for North Carolina. Dr. William B. Wood, director of continuing medical education here, accepted the contribution on behalf of the dean.

Also participating in the presentation were Dr. M. Frank Sohmer Jr. of Winston-Salem and Mrs. Hal Rollins of Greensboro.

* * *

Three appointments to the School of Medicine faculty have been announced by Chancellor Christopher C. Fordham III.

The new faculty members are: Dr. Jack D. McCue, associate professor of medicine and chief of the medicine teaching service at Moses Cone Memorial Hospital in Greensboro; Dr. Ali Shirkhoda, assistant professor of radiology; and Dr. Luigi Cubeddu, associate professor of pharmacology and medicine and chief of the division of clinical pharmacology.

* * *

Five faculty members in the School of Medicine have been promoted to full professor.

Chancellor Christopher C. Fordham III announced the promotions of Dr. W. Paul Biggers, Department of Surgery; Dr. Lorcan A. O'Tuama, Department of Neurology, Pediatrics and Medicine; Dr. Russell L. Pimmel, Departments of Medicine and Surgery; Dr. John B. Winfield, Department of Medicine; and Dr. William J. Yount, Department of Bacteriology and Immunology. The promotions were effective July 1.

The 13th annual scientific symposium of the American Red Cross, May 14-15 in Washington, D.C., was held in honor of Dr. Kenneth M. Brinkhous, Alumni Distinguished Professor of Pathology Emeritus at the School of Medicine.

The topic of the symposium was "Hemophilia and Hemostasis."

Brinkhous has devoted nearly half a century to studies of blood clotting mechanisms and to methods of diagnosing and treating bleeding disorders. He is best known for his pioneering studies of blood coagulation that led to the first effective control of hemophilia.

* * *

Dr. Tai-Chan Peng, associate professor of pharmacology, was named president-elect of the Sigma Xi scientific research society at the annual banquet of the society's local chapter.

Dr. R. Malcolm Brown Jr., professor of botany, was installed as president of the society for 1981-82. John B. Darling, zoology librarian, was elected to a two-year term as secretary. Dr. Frederick K. Pfaender, associate professor of environmental microbiology, is in the second year of his two-year term as treasurer.

Dr. J. Logan Irvin, Kenan professor of biochemistry and nutrition and 1980-81 president, gave the presidential address on "Chromatin Modifications During Spermatogenesis."

Sigma Xi is a national organization dedicated to the encouragement of pure and applied research in various fields. Election to membership is considered a scientific distinction of high order and indicates achievement in research.

* * *

An anesthesiology library honoring Dr. Kenneth Sugioka, professor and chairman of the Department of Anesthesiology, was formally dedicated April 12 at ceremonies in the state dining room of the Morehead Planetarium.

The library is funded by the donations from departmental alumni and current staff members and has been named The Kenneth Sugioka Library. More than 250 people attended the dedication ceremonies with Dr. Stuart Bondurant, dean of School of Medicine, serving as guest speaker.

Sugioka received his B.S. from the University of Denver and his M.D. from Washington University in 1949. He came to the University of North Carolina at Chapel Hill in 1954 as an assistant professor of surgery (anesthesiology).

He was named professor and chief of anesthesiology in 1964 and became chairman when anesthesiology was established as a separate department in 1969.

* * *

Contributions making possible five endowed professorships were honored April 30 by the School of Medicine.

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They are Dr. M. D. "Rabbit" Bonner of Greensboro, J. P. Riddle of Fayetteville, Dr. and Mrs. Sterling A. Barrett of Waterloo, Iowa, and Dr. James A. Valone of Raleigh. The late Dr. H. Houston Merritt, former professor of neurology at Columbia University, was honored posthumously.

The benefactors' support of the School of Medicine was cited during the spring banquet of the Co-Founders Club, a donor organization. Earlier in the day, those currently holding the professorships spoke during the organization's spring meeting.

The speakers included Dr. Thomas B. Barnett, Bonner Distinguished Professor of pulmonary and allied diseases; Dr. W. Paul Biggers, J. P. Riddle distinguished Professor of otolaryngology; Dr. David E. Eifrig, the Dr. and Mrs. Sterling A. Barrett Distinguished Professor of ophthalmology; Dr. James N. Hayward, the Dr. H. Houston Merritt Distinguished Professor of neurology; and Dr. Bradford Cannon, the first Dr. James A. Valone Distinguished Professor in plastic and reconstructive surgery.

The day's activities also included the dedication of the H. Houston Merritt Electron Microscopy Laboratory in the Department of Neurology.

Members of the Co-Founders Club each contribute at least \$1,000 a year to the School of Medicine. The club meets in Chapel Hill each spring and fall.

* * *

Larry R. Churchill, assistant professor of family medicine, attended a meeting of the Society for Health and Human Values on Ethical and Social Issues in Reproductive Biology March 26-28 at Eastern Virginia Medical School in Norfolk.

News Notes from the—

EAST CAROLINA UNIVERSITY SCHOOL OF MEDICINE

The first physicians to complete residency training in internal medicine and pediatrics at the East Carolina University School of Medicine and Pitt County Memorial Hospital finished requirements for the postgraduate training programs in June.

Four residents received specialty training in internal medicine and two in pediatrics. The six physicians are remaining in North Carolina to practice or receive additional training.

Five residents in family medicine and dentistry also completed postgraduate training in June. Last year the medical center honored four family physicians and two dentists, the first graduates of the medical center's seven residency programs.

Completing training in internal medicine were Drs. Janice L. Strom of Louisville, Ky., Joseph Jan Creech of Kenly, George S. Hughes, Jr. of Norfolk, Va., and Nicholas A. Patrone of Chapel Hill. Strom will enter

practice with Dr. Mary Ellen Coulter in Windsor. Creech will be an emergency room physician at Johnston Memorial Hospital in Smithfield.

Hughes will join the ECU faculty as assistant professor of medicine. Patrone will begin a fellowship in rheumatology at the University of North Carolina-Chapel Hill.

The two pediatricians to complete training will both enter practice in Eastern North Carolina. Dr. Penny Miranda of Burgaw will return to Burgaw to practice. Dr. Jimmie Shuler of Orangeburg, S.C., will serve as a National Health Services Corps physician with Pembroke and Dental Services in Pembroke.

The family physicians who completed training included Drs. Janice Daugherty, Richard Rawl, James Nicholson and Charles McGaw. Daugherty, from Florham Park, N.J., will join the faculty at ECU's Family Practice Center, and Rawl, from Lexington, S.C., will serve as director of the Bethel Family Practice Center, the medical school's satellite facility for primary care.

Nicholson, from Wilmington, and McGaw, from Windsor, have established a family practice in Robersonville known as Robersonville Family Physicians.

* * *

Dr. David Madow, a dental resident, will join a practice in Baltimore, Md.

* * *

Dr. Walter J. Pories, professor and chairman of the Department of Surgery, has been elected president of the Society for Environmental Geo-chemistry and Health.

The society, also known as the International Trace Element Society, has members in 24 countries who are involved in a broad spectrum of disciplines dealing with earth and biological sciences.

Pories, a thoracic surgeon, has been actively involved in trace element research and coordinated the development of a trace element laboratory within the medical school.

His primary research areas are zinc metabolism in wound healing and the development of radioisotope techniques for the study of body ion pools.

* * *

Dr. Judith Thomas, associate professor of surgery, division of surgical research, recently presented "Suppressor Cells in Rhesus Monkeys After Treatment with Anti-thymocyte Globulin: Regulation of Mitogen-induced Lymphocyte Proliferation" at the annual meeting of the American Society of Transplant Surgeons in Chicago.

* * *

Dr. James L. Mathis, professor and chairman of the Department of Psychiatry, is the author of "Viewpoints: What Do Men Find Most Difficult to Understand About Women's Sexuality" appearing in the June issue of *Medical Aspects of Human Sexuality*.

An article by Dr. Jarlath M. MacKenna, assistant professor of obstetrics and gynecology, Dr. Ray Dombroski, fourth-year obstetrics and gynecology resident, and Dr. Robert G. Brame, professor and chairman of the Department of Obstetrics and Gynecology, appears in the June issue of the *American Journal of Obstetrics and Gynecology*. The article is entitled "Comparison of Amniotic Fluid Lung Maturity Profiles in Paired Vaginal and Amniocentesis Specimens."

* * *

Dr. Jo Ann Bell, director of Health Science Library, presented "A Library Administrator View of Certification" and "Marketing for Librarians" at the annual meeting of the Medical Library Association in Montreal.

* * *

Dr. Jascha W. Danoff, a child psychiatrist, has been appointed professor of psychiatry.

Prior to joining the School of Medicine, Danoff was associate professor of psychiatry at the Medical College of Georgia and a child psychiatry consultant at the Richmond County Mental Health Center in Augusta. He also was child psychiatrist at Gracewood School and Hospital, a regional retardation center in Augusta.

He received his undergraduate degree from McGill University, Montreal, and his medical degree from Toronto University. He did postgraduate training at Mt. Sinai Hospital, Cleveland, and also at the University of Toronto and MacMaster University in Toronto.

* * *

Dr. Bernice C. McKibben has been appointed associate director of the Health Science Library at the School of Medicine.

She formerly was assistant professor of library science at the University of Oklahoma at Norman where she developed a biomedical librarianship program.

McKibben received her doctoral degree from the University of Colorado in instructional technology and media. She received her master's degree in library science and bachelor's degree from the University of Denver.

* * *

Dr. Charles E. Boklage, assistant professor of microbiology and immunology, recently presented "Twinning and Origins of Human Symmetry" at the Alumni Symposium for the Curriculum in Genetics at the UNC-CH School of Medicine.

* * *

Dr. Leonard S. English, assistant professor of microbiology, attended the Seventh International Conference on Lymphatic Tissues and Germinal Centers in Immune Reactions June 15-19 in Groningen, Holland. English presented "Immunoregulatory Factors Produced by Activated Lymph Nodes *in vivo*."

News Notes from the—

**BOWMAN GRAY SCHOOL
OF MEDICINE
WAKE FOREST UNIVERSITY**

When the Food and Drug Administration approves the use of a new class of drugs called calcium blockers, it will be partially as the result of work done at the Bowman Gray School of Medicine.

Research done at the school for the past two years has produced evidence that calcium blockers are effective.

The work suggests that the most important initial use of calcium blockers will be in the chronic use by patients to avoid attacks of angina.

But some physicians nationwide also foresee the day when calcium blockers may be used alone or in combination to treat high blood pressure. The drugs also may be used to reduce the damage being done by a heart attack as it occurs and may be given to patients at high risk of having a heart attack.

Bowman Gray's research has found that calcium blockers are useful in treating patients with a spasm of the coronary artery. Such a spasm reduces the amount of blood and oxygen that the heart muscle receives. The result is chest pain.

Calcium blockers help the coronary artery to relax. Blood flow to muscle increases and pain ceases. Medical center physicians report that some of the results of their studies have been dramatic.

* * *

Much of the nation's research on the use of ultrasound to diagnose hardening of the arteries in the neck and legs will occur over the next three years at the Bowman Gray School of Medicine.

Of six grants recently awarded by the National Heart, Lung and Blood Institute (NHLBI) to support that research, two were awarded to Bowman Gray researchers.

Together, the two grants total approximately \$1 million and will help determine whether pictures of arteries produced with ultrasound show the real extent of existing atherosclerosis.

One of the grants, involving a three-year study

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of research animals, is the only one of its kind. Dr. M. Gene Bond, assistant professor of comparative medicine, is directing that project.

The second grant is directed by Dr. James F. Toole, professor and chairman of the Department of Neurology. It is intended to evaluate equipment now being used on patients.

While several ultrasound methods have been introduced over the past decade to screen patients, a study such as the one at Bowman Gray is needed to determine which method is best.

Results of the ultrasound studies will be compared with results obtained through angiography, an X-ray procedure currently regarded as the surest diagnostic tool for detecting atherosclerosis in the neck and legs.

The results of both Toole's and Bond's research will be sent to the Research Triangle Institute, which has been awarded a grant to evaluate the information produced by the six projects supported through NHLBI funding.

Bond's work is designed to evaluate the accuracy and limitations of more advanced ultrasound equipment. He and his colleagues will work on monkeys in studying the inside surfaces of the artery and the thickness of the wall.

They hope to be able to detect very early stages of atherosclerosis and to track the disease's progress using very powerful instrumentation.

* * *

Dr. A. Ronald Cowley, who completed his graduate training in radiology at Bowman Gray this past summer, has been honored by the school's Department of Radiology.

He was given the Radiology Faculty Award, which is presented each year by the faculty members in the department to the resident who demonstrated superior scholarship and potential as a diagnostic radiologist.

Earlier this year Cowley received the Cornelius G. Dyke Memorial Award, the nation's most prestigious award which can be given to a young neuroradiologist.

* * *

Dr. Joseph G. Gordon, who was appointed to the Bowman Gray faculty in 1973, has been honored for teaching excellence by the school's Department of Radiology.

He was presented with the James L. Quinn III Memorial Award for teaching excellence. Radiology residents present the award each year to a faculty member in the department.

The award was established in memory of Dr. Quinn, a Bowman Gray alumnus and former faculty member who was a nationally-known nuclear medicine specialist. Quinn died of cancer in 1980.

* * *

Dr. Laurence A. Bradley, assistant professor of psychology at Bowman Gray, is the co-editor of a new textbook on medical psychology.

The book, "Medical Psychology — Contributions to Behavioral Medicine," contains chapters written by 39 contributing authors. The book covers assessment, treatment and prevention of medical problems such as hypertension, chronic pain, obesity and cancer.

Bradley's co-editor is Dr. Charles K. Prokop at the Texas Tech University Health Sciences Center.

The book will be used as a textbook for medical students at Bowman Gray and at other schools nationwide.

Bradley is interim director of Bowman Gray's Section on Medical Psychology and directs a clinic for patients with chronic low back pain.

* * *

Dr. Henry S. Miller Jr., professor of medicine at Bowman Gray, has been installed as president of the American College of Sports Medicine.

The organization, with 7,500 members from the U.S. and Canada, was begun in the 1960s by people involved in physical education and the physiology of exercise. Today, the organization's scope has increased to involve the medical aspects of sports.

The college is concerned with the role of exercise in cardiac and respiratory rehabilitation, with the performance and injuries sustained by athletes and with research into muscle development and changes connected with physical activity.

* * *

A scholarship fund has been established at Bowman Gray in memory of Dr. Norman M. Sulkin, former professor and chairman of the school's Department of Anatomy.

The fund was established through memorial gifts from Dr. Sulkin's family, colleagues and friends.

Starting in the fall of 1982, the fund will provide scholarship aid to a student in neuroanatomy, pursuing the Ph.D. degree through the Biomedical Graduate Studies Program at the medical school.

Dr. Sulkin, who died in 1975, was a member of the Bowman Gray faculty for 23 years and was chairman of the Department of Anatomy for 16 years. He was named the William Neal Reynolds Professor of Anatomy in 1961.

He was known internationally for his work in neuroanatomy and the neurobiology of aging.

* * *

Michael Merriman, transplant coordinator for the Bowman Gray/Baptist Hospital Medical Center, has been elected treasurer of the North American Transplant Coordinators Organization.

Merriman, who joined the medical center in 1976 as transplant coordinator, previously has served as the organization's chairman and co-chairman of the legal/ethical issues committee.

* * *

Dr. Richard C. Proctor, professor and chairman of

Bowman Gray's Department of Psychiatry, has been appointed chairman of the committee to work with the North Carolina Industrial Commission by the North Carolina Medical Society.

* * *

Dr. Charles H. Duckett, associate professor of family and community medicine, has been appointed to the Credentials Committee of the North Carolina Medical Society.

* * *

Dr. George Rovere, associate professor of orthopedic surgery, has been re-elected to the Continuing Education Committee of the American Orthopedic Society for Sports Medicine

Dr. Walter Bo, professor of anatomy, has been elected to a four-year term as a councillor of the Society for Experimental Biology and Medicine.

* * *

Dr. Joseph E. Johnson III, professor and chairman of the Department of Medicine, has been elected president-elect of the Association of Professors of Medicine. It is composed of chairmen of the departments of medicine in all American medical schools.

* * *

Dr. Vernon Jobson, assistant professor of obstetrics and gynecology, has been selected as a member of the American Medical Association's Physician Research and Evaluation Panel.

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Index to Advertisers

| | | | |
|---|-----------------------|---|--|
| Air Force | 672 | Mutual of Omaha | 633 |
| Blue Cross & Blue Shield of N.C. | 619 | National Medical Enterprises | 680 |
| Bristol-Myers Professional Products | 627, 628, 661, 662 | Ortega Pharmaceutical Company | 677 |
| Burroughs Wellcome Company | 636 | Plyler Financial Services | 665 |
| Charlotte Chest Laboratory | 669 | Ramada Inn Downtown | 632 |
| Charlotte Treatment Center | 686 | Roche Laboratories | Cover 2, 615, 616, 650, 651, Cover 3, Cover 4 |
| Children's Home Society of N.C. | 668 | Saint Albans Psychiatric Hospital | 659 |
| Crumpton, J. L. & J. Slade, Inc. | 621 | Smith Kline & French | 652 |
| Fellowship Hall | 682 | Springwood Psychiatric Institute | 678 |
| Golden-Brabham Insurance Agency | 618 | Upjohn Company | 649, 650 |
| Graphic Cardiology | 631 | Vyquest Development Corp. | 654 |
| Holly Hill Hospital | 666 | Willingway, Inc. | 673 |
| Lilly, Eli & Company | 629 | Winchester Surgical Supply Company, | |
| Mandala Center | 634 | Winchester-Ritch Surgical Company | 617 |
| Medical Mutual Insurance Company | 622 | Wyeth Laboratories | 623, 624, 670, 671 |
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The Official Journal of the NORTH CAROLINA MEDICAL SOCIETY □ □ □ October 1981, Vol. 42, No. 10

Original Articles

- The New Tertiary Obstetrical Center:
More Than Men and Machines** .. 705
R. G. Brame, M.D., J. MacKenna,
M.D., and D. E. D. Jones, M.D.

- Miliary Tuberculosis, With Adult Re-
spiratory Distress Syndrome and a
Leukemoid Reaction** 709
Douglas Jay Sprung, M.D.

- Peroneal Palsy in Patients With De-
mentia** 711
E. Wayne Massey, M.D.

Current Therapy

- Thyroid Nodules: 1981** 713
Warner M. Burch, Jr., M.D.

Special Article

- Dedicatory Address — Duke Uni-
versity Hospital, North Division** . 715
Steven Muller, Ph.D.

Mini-Feature

- Toxic Encounters of the Dangerous
Kind — Tricyclic Antidepressant
Overdose** 724
Ronald B. Mack, M.D.

Editorials

- Report From West Germany** 725
**Medicine, Competition, The Federal
Trade Commission and the Post
Office** 726

Bulletin Board

- New Members of the State Society** 735
What? When? Where? 736
**Auxiliary to the North Carolina
Medical Society** 737
**News Notes from the East Carolina
University School of Medicine** .. 741
**News Notes from the University of
North Carolina-Chapel Hill
School of Medicine and North
Carolina Memorial Hospital** 742
**News Notes from the Bowman Gray
School of Medicine of Wake
Forest University** 745
**News Notes from the Duke Univer-
sity Medical Center** 747
Classified Ads 749
Index to Advertisers 750

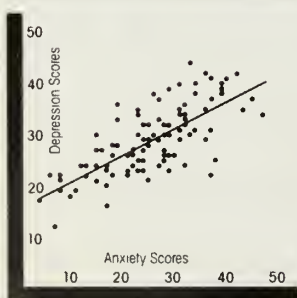
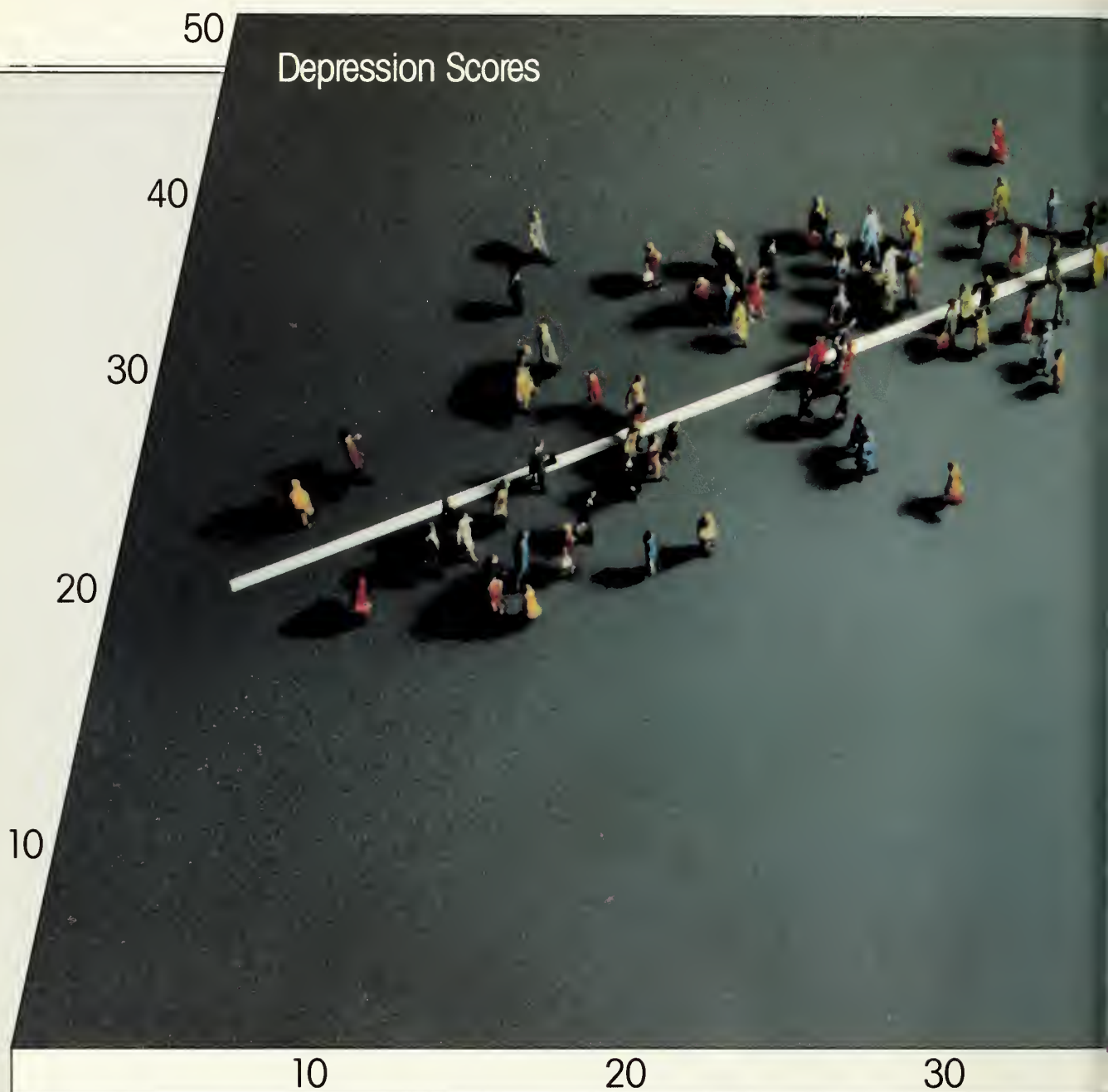
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Winston-Salem

1982 Annual Sessions: May 6-9,
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Clear correlation between anxiety and depression³

The above graph illustrates a relationship between anxiety and depression, indicating that patients seldom present with anxiety or depression alone; more often they have both in varying degrees. Data based on a sampling of 100 outpatients (64 male; 36 female) seen at a general psychiatric clinic.

³Adapted from Claghorn, J. The anxiety-depression syndrome. *Psychosomatics* 11:438-441, Sept-Oct 1970.

DEPRESSED PATIENTS WHO ARE ALSO ANXIOUS^{1,2}

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Some authors estimate that 70% of all nonpsychotic patients with symptoms of depression have concomitant symptoms of anxiety.^{1,2} One author found a distinct correlation between anxiety and depression scores in 100 nonpsychotic outpatients administered the Minnesota Multiphasic Personality Inventory in a general psychiatric clinic.³ As depression scores increased, so did anxiety scores. No attempt was made to select patients other than to exclude psychotics.

but not psychotic

The logic of treating both components of anxious depression is clear. Antipsychotics, like the phenothiazines, however, carry a well-documented risk of tardive dyskinesia.⁴ Because of this, an APA Task Force recently recommended the judicious use of phenothiazines in cases other than chronic psychosis or the use of alternative treatments.

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References: 1. Rickels K: Drug treatment of anxiety, in *Psychopharmacology in the Practice of Medicine*, ed. Jarvik ME. New York, Appleton-Century-Crofts, 1977, p. 316. 2. Schotzberg AF, Cole JO: Benzodiazepines in depressive disorders. *Arch Gen Psychiatry* 35:1359-1365, 1978. 3. Coghorn J: The anxiety-depression syndrome. *Psychosomatics* 11:438-441, 1970. 4. The Task Force on Late Neurological Effects of Antipsychotic Drugs: Tardive dyskinesia, summary of a task force report of the American Psychiatric Association. *Am J Psychiatry* 137:1163-1172, 1980. 5. Feighner JP *et al*: A placebo-controlled multicenter trial of Limbitrol versus its components (amitriptyline and chlordiazepoxide) in the symptomatic treatment of depressive illness. *Psychopharmacology* 61:217-225, 1979.

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Warnings: Use with great care in patients with history of urinary retention or angle-closure glaucoma. Severe constipation may occur in patients taking tricyclic antidepressants and anticholinergic-type drugs. Closely supervise cardiovascular patients. (Arrhythmias, sinus tachycardia and prolongation of conduction time reported with use of tricyclic antidepressants, especially high doses. Myocardial infarction and stroke reported with use of this class of drugs.) Caution patients about possible combined effects with alcohol and other CNS depressants and against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving).

Usage in Pregnancy: Use of minor tranquilizers during the first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies.

Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.

Since physical and psychological dependence to chlordiazepoxide have been reported rarely, use caution in administering Limbitrol to addiction-prone individuals or those who might increase dosage, withdrawal symptoms following discontinuation of either component alone have been reported (nausea, headache and malaise for amitriptyline, symptoms [including convulsions] similar to those of barbiturate withdrawal for chlordiazepoxide).

Precautions: Use with caution in patients with a history of seizures, in hyperthyroid patients or those on thyroid medication, and in patients with impaired renal or hepatic function. Because of the possibility of suicide in depressed patients, do not permit easy access to large quantities in these patients. Periodic liver function tests and blood counts are recommended during prolonged treatment. Amitriptyline component may block action of guanethidine or similar antihypertensives. Concomitant use with other psychotropic drugs has not been evaluated; sedative effects may be additive. Discontinue several days before surgery. Limit concomitant administration of ECT to essential treatment. See Warnings for precautions about pregnancy. Limbitrol should not be taken during the nursing period. Not recommended in children under 12.

In the elderly and debilitated, limit to smallest effective dosage to preclude ataxia, oversedation, confusion or anticholinergic effects.

Adverse Reactions: Most frequently reported are those associated with either component alone: drowsiness, dry mouth, constipation, blurred vision, dizziness and bloating. Less frequently occurring reactions include vivid dreams, impotence, tremor, confusion and nasal congestion. Many depressive symptoms including anorexia, fatigue, weakness, restlessness and lethargy have been reported as side effects of both Limbitrol and amitriptyline. Granulocytopenia, jaundice and hepatic dysfunction have been observed rarely.

The following list includes adverse reactions not reported with Limbitrol but requiring consideration because they have been reported with one or both components or closely related drugs:

Cardiovascular: Hypotension, hypertension, tachycardia, palpitations, myocardial infarction, arrhythmias, heart block, stroke.

Psychiatric: Euphoria, apprehension, poor concentration, delusions, hallucinations, hypomania and increased or decreased libido.

Neurologic: Incoordination, ataxia, numbness, tingling and paresthesias of the extremities, extrapyramidal symptoms, syncope, changes in EEG patterns.

Anticholinergic: Disturbance of accommodation, paralytic ileus, urinary retention, dilatation of urinary tract.

Allergic: Skin rash, urticaria, photosensitization, edema of face and tongue, pruritus.

Hematologic: Bone marrow depression including agranulocytosis, eosinophilia, purpura, thrombocytopenia.

Gastrointestinal: Nausea, epigastric distress, vomiting, anorexia, stomatitis, peculiar taste, diarrhea, black tongue.

Endocrine: Testicular swelling and gynecomastia in the male, breast enlargement, galactorrhea and minor menstrual irregularities in the female and elevation and lowering of blood sugar levels.

Other: Headache, weight gain or loss, increased perspiration, urinary frequency, mydriasis, jaundice, alopecia, parotid swelling.

Overdosage: Immediately hospitalize patient suspected of having taken an overdose. Treatment is symptomatic and supportive. I.V. administration of 1 to 3 mg physostigmine salicylate has been reported to reverse the symptoms of amitriptyline poisoning. See complete product information for manifestation and treatment.

Dosage: Individualize according to symptom severity and patient response. Reduce to smallest effective dosage when satisfactory response is obtained. Larger portion of daily dose may be taken at bedtime. Single *h.s.* dose may suffice for some patients. Lower dosages are recommended for the elderly. Limbitrol 10-25, initial dosage of three to four tablets daily in divided doses, increased to six tablets or decreased to two tablets daily as required. Limbitrol 5-12 5, initial dosage of three to four tablets daily in divided doses, for patients who do not tolerate higher doses.

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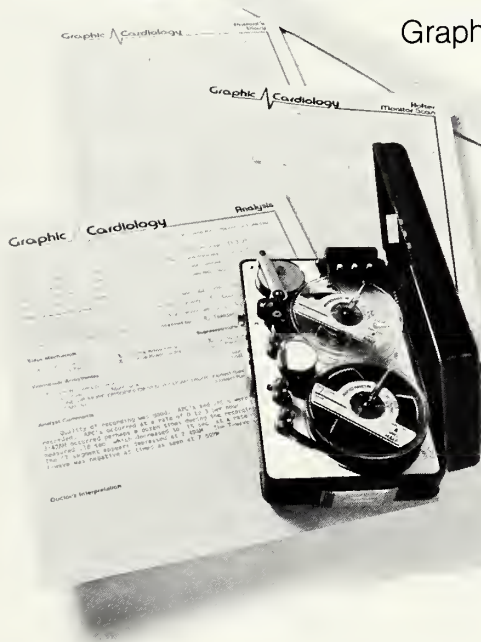
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\$25,000 maximum benefit: choice of deductibles from \$100 to \$1,000: benefits paid regardless of other insurance

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We have been working with physicians in North Carolina for more than FORTY-FIVE years.



Mrs. Gladys Madden — Office Manager

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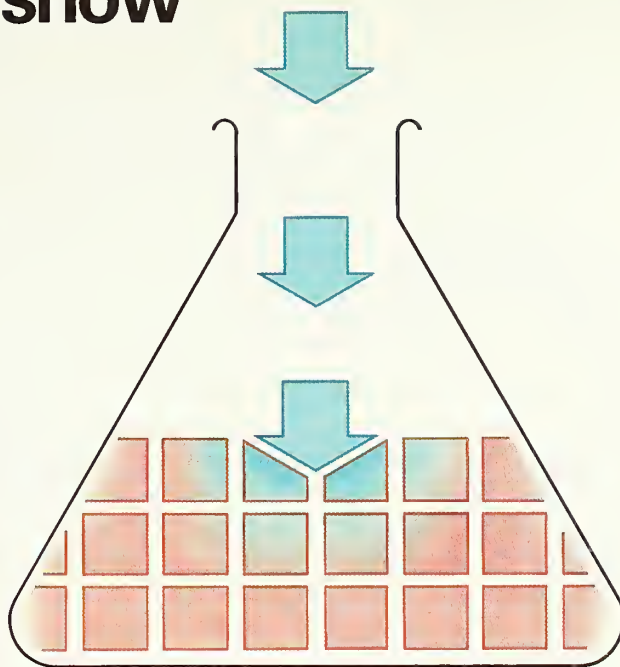
108 East Northwood St., P.O. Drawer 6395

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Greensboro, N.C. 27405

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***In vitro* data show**



Neolin®

Each tablet contains 324 mg aspirin, 225 mg magnesium carbonate and 200 mg calcium carbonate.

Neolin has greater acid-neutralizing effectiveness than Ascriptin® A/D

NEOLIN contains two proven effective acid-neutralizers, magnesium carbonate and calcium carbonate.

Ascriptin A/D, on the other hand, is formulated with magnesium hydroxide and aluminum hydroxide. Aluminum hydroxide has been reported to be a poorly effective acid-neutralizer.¹ Additionally, crushing of this particular buffer, as must be done for tablet use, alters its structure, further reducing antacid efficacy.²

It is not surprising, therefore, that NEOLIN proved superior to Ascriptin A/D in two separate *in vitro* tests* designed to evaluate the acid-neutralizing capacity of buffered aspirin. These studies showed that NEOLIN had 17.2% to 48.2% greater acid-neutralizing capacity than did Ascriptin A/D.

| Test I | Total Acid-Neutralizing Capacity (mEq) |
|---------------|--|
| Neolin | 16.9 |
| Ascriptin A/D | 11.4 |

| Test II | Total Acid-Neutralizing Capacity (mEq) |
|---------------|--|
| Neolin | 17.0 |
| Ascriptin A/D | 14.5 |

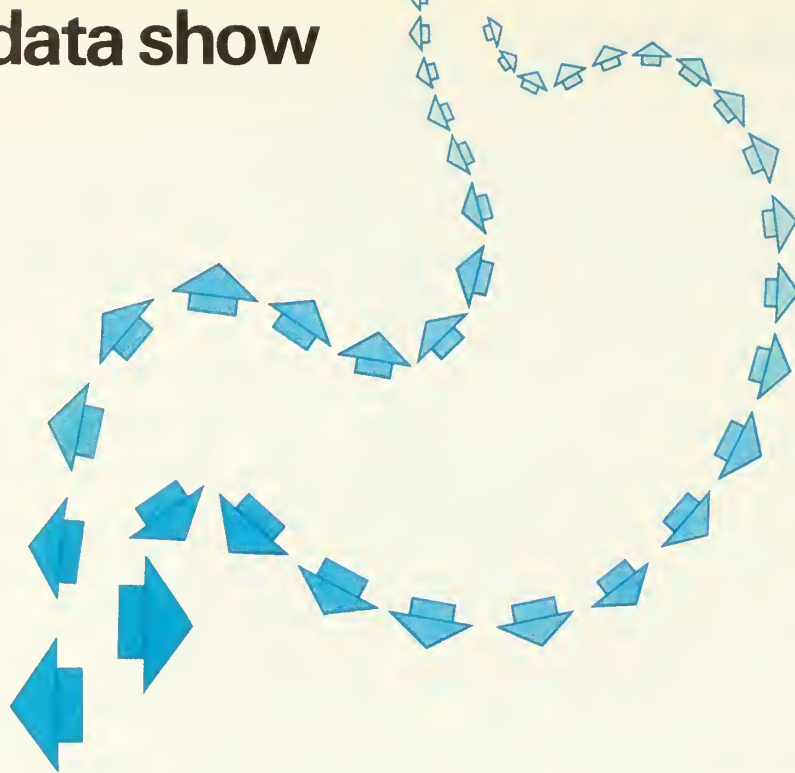
1. Harvey, S.C.: "Gastric antacids and digestants," in Goodman, L.S. and Gilman, A. (eds): *Pharmaceutical Basis of Therapeutics, The*, ed 6, New York: Macmillan Publishing Co., Inc., 1980, p 991.
2. Garnett, W.R.: "Antacids," in Apple, W. (ed): *Handbook of Nonprescription Drugs*, ed 6, Washington, D.C.: American Pharmaceutical Association, 1979, p 6.

*Bristol-Myers Test Method designed to evaluate the acid-neutralizing capacity of buffered aspirin preparations using single tablet samples of NEOLIN and Ascriptin A/D. Each product stirred for 15 minutes in an excess of 0.1N HCl at 25 °C (Test I) and 37 °C (Test II) and back titrated with NaOH to pH 2.8.



BRISTOL-MYERS PROFESSIONAL PRODUCTS

***In vivo* data show**

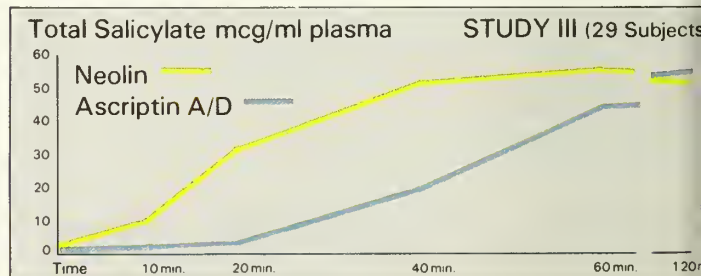
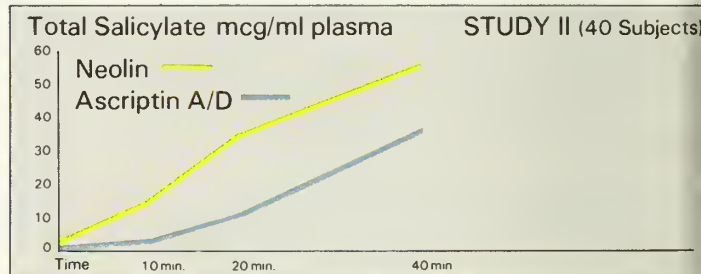
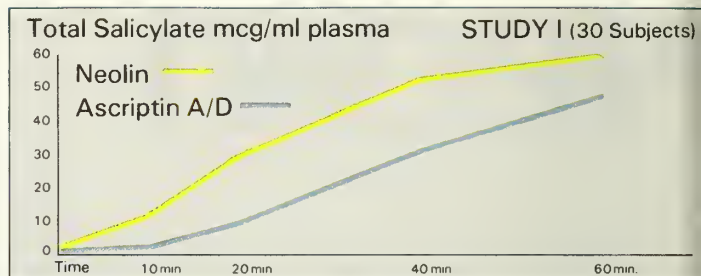


With greater acid-neutralizing capacity,

Neolin[®]

gets relief into
circulation
faster than
Ascriptin[®] A/D

When salicylate blood levels of NEOLIN and Ascriptin A/D were compared in three separate crossover studies, total amounts were found to be higher for NEOLIN up to one hour after ingestion. (Volunteers took 2 five-grain tablets of either medication.) More rapid absorption with NEOLIN means more rapid availability for pain relief, particularly important to patients with osteoarthritis.



Neolin[®] the aspirin for today—and every c

Each capsule-shaped, scored tablet contains 324 mg aspirin, 225 mg magnesium carbonate and 200 mg calcium carbonate.



PRESIDENT'S NEWSLETTER

NORTH CAROLINA MEDICAL SOCIETY

NO. 5

OCTOBER 1981

Dear Colleague:

After five solid days of meetings at the Committee Conclave, I came home weary and "rump-sprung" but extremely happy because of the marvelous job done by all of the committee members. I am told that we had the largest and best attendance ever recorded at a Committee Conclave. Every committee meeting was well attended by interested, willing, working physicians. The weather was perfect in Southern Pines and some cynics were sure that at least a few of our physicians would slip over to Pinehurst to that big golf tournament. "Oh, ye of little faith!" Those hardworking physicians stayed in those meetings and shouldered those responsibilities! I am so grateful to you all!

The Committee Liaison to the Department of Human Resources was concerned over the state personnel regulations governing the qualifications for appointment as Local Health Directors. Recognizing that medical doctors, academically trained in Public Health, "can best deal with the extremely complex Public Health Programs," it was resolved that the Secretary of Human Resources, Sarah T. Morrow, M.D., be urged to seek the necessary changes in those regulations. The resolution states: "Acceptable candidates must have completed or be enrolled in a prescribed graduate education program in Public Health and must have had administrative experience in a health field." Is that too much to ask? After all, we are constantly admonished that there is a plethora (and will be more) of physicians who can fill these positions. Who demanded that there be more graduates of medical schools? The "Feds"?

God bless Vice-President John W. Foust, who has sired our gigantic membership drive! Let us not forget Deanna Godwin (NCMS Administrative Assistant Membership Services). At the meeting of the Committee on Membership, it was apparent that the two of them have looked under every North Carolina rock for physician membership. Some members confessed to having received three or more letters from John. An excellent informational slide program was presented by Elizabeth Kanof, M.D. (Chairman, Committee on Communications). If you need a county society program, please call Liz Kanof -- because -- she has the answer! We need new members -- and -- they need the North Carolina Medical Society!

Take a minute to remember our good friend and colleague, Thornton R. Cleek, M.D. Thornton served us all -- through the North Carolina Academy of Family Practice -- as well as serving as Councilor of the North Carolina Medical Society and as an elected member of the North Carolina Commission for the Division of Health Services. It is my sad duty to inform you of Thornton's untimely demise in September. Unfortunately, the Executive Council was charged with the responsibility of appointing a member to fill the unexpired term on this Commission. On the recommendation of the Nominating Committee, the Executive Council elected George W. Brown, M.D., Hazelwood, North Carolina, to fill the unexpired term, and we are grateful that Dr. Brown has consented to serve in this capacity. A memorial tribute in memory of Dr. Cleek, presented by Vice-Speaker Reginald Harris, was passed unanimously by the Executive Council.

Although gravely handicapped by the failure of the Federal Government to finalize budget cuts in the Medicaid Program, the Committee on Social Services

Programs met 3½ hours with Sarah T. Morrow, M.D., Secretary, N. C. Department of Human Resources, in this regard. Unfortunately, that same night, President Ronald Reagan, in a televised speech announced that Medicaid cuts will be more severe than previously stated. All was not in vain! The other committee members were able to discuss their ideas with Dr. Morrow (also a committee member), Barbara D. Matula (Director, N. C. Division of Medical Assistance), and Lillian J. Todd (Division of Medical Assistance Nurse Consultant). We all agreed that the number of Federal dollars made available will be the determining factor influencing impending changes in the North Carolina Medicaid Program.

One of our hardest working and most effective committees is the Committee on Physicians' Health & Effectiveness, chaired by Theodore ("Ted") Clark, M.D., of Pinehurst. The members of this committee contribute many hours each year to the work of this worthwhile effort. Their time is devoted to working, one on one, with our less fortunate colleagues who have fallen victim to alcohol, drugs or mental illness. The Committee recommended that the North Carolina Medical Society encourage contributions to the North Carolina Medical Society FOUNDATION, INC., earmarked for assistance to physicians through the Committee on Physicians' Health and Effectiveness. All contributions to the FOUNDATION are TAX-EXEMPT. The Executive Council concurred and I commend this effort to you when considering your charitable donations each year.

Serious consideration is being given to the construction of an additional two floors to our Headquarters Office Building. Additional space has become a major problem for both the Medical Society and the Medical Mutual Insurance Company. Accordingly, the Executive Council directed the President to appoint an "ad hoc Committee on Feasibility Study for Additional Floors to Medical Society Building". Voting members of the Committee are:

Thomas B. Dameron, Jr., M.D. (Chairman)
A. Hewitt Rose, Jr., M.D.
E. Thomas Marshburn, Jr., M.D.
Robert H. Shackelford, M.D.

Ex Officio members are:

Ernest B. Spangler, M.D.
Shahane R. Taylor, Jr., M.D.
Josephine E. Newell, M.D.
William N. Hilliard
Garland R. Pace

The Committee is to report to the Executive Council at its February 1982 meeting.

Again, thank you for your fellowship and your participation in the North Carolina Medical Society.

My best to you and your family!


Josephine E. Newell, M.D.
President

PAIN AND TENSION...

Double fault for weekend warriors

FACE THE ACHE

with

Equagesic[®]

(meprobamate and ethoheptazine citrate with aspirin) Wyeth

Twofold analgesic action teamed with time-proven efficacy against concurrent anxiety and tension in patients with musculoskeletal disease.*

EQUAGESIC—Abbreviated Summary

INDICATIONS: Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the indications as follows:

"Possibly" effective: for the treatment of pain accompanied by tension and/or anxiety in patients with musculoskeletal disease or tension headache.

Final classification of the less-than-effective indications requires further investigation.

The effectiveness of Equagesic in long-term use, i.e. more than four months, has not been assessed by systematic clinical studies. The physician should periodically reassess usefulness of the drug for the individual patient.

CONTRAINDICATIONS: Equagesic should not be given to individuals with a history of sensitivity or severe intolerance to aspirin, meprobamate, or ethoheptazine citrate.

WARNINGS: Careful supervision of dose and amounts prescribed for patients is advised, especially with those patients with known propensity for taking excessive quantities of drugs. Excessive and prolonged use in susceptible persons, e.g., alcoholics, former addicts, and other severe psychoneurotics, has been reported to result in dependence on or habituation to the drug. Where excessive dosage has continued for weeks or months, dosage should be reduced gradually rather than abruptly stopped, since withdrawal of a "crutch" may precipitate withdrawal reaction of greater proportions than that for which the drug was originally prescribed. Abrupt discontinuance of doses in excess of the recommended dose has resulted in some cases in the occurrence of epileptiform seizures.

Special care should be taken to warn patients taking meprobamate that tolerance to alcohol may be lowered with resultant slowing of reaction time and impairment of judgment and coordination.

USAGE IN PREGNANCY AND LACTATION: An increased risk of congenital malformations associated with the use

of minor tranquilizers (meprobamate, chloridiazepoxide, and diazepam) during the first trimester of pregnancy has been suggested in several studies. Because use of these drugs is rarely a matter of urgency, their use during this period should almost always be avoided. The possibility that a woman of child-bearing potential may be pregnant at the time of institution of therapy should be considered. Patients should be advised that if they become pregnant during therapy or intend to become pregnant they should communicate with their physicians about the desirability of discontinuing the drug. Meprobamate passes the placental barrier. It is present both in umbilical-cord blood and in near maternal plasma levels and in breast milk of lactating mothers at concentrations two to four times that of maternal plasma. When use of meprobamate is contemplated in breast-feeding patients, the drug's higher concentration in breast milk as compared to maternal plasma levels should be considered.

Preparations containing aspirin should be kept out of the reach of children. Equagesic is not recommended for patients 12 years of age and under.

PRECAUTIONS: Should drowsiness, ataxia, or visual disturbance occur, the dose should be reduced. If symptoms continue, patients should not operate a motor vehicle or any dangerous machinery.

Suicidal attempts with meprobamate have resulted in coma, shock, vasomotor and respiratory collapse, and anuria. Very few suicidal attempts were fatal, although some patients ingested very large amounts of the drug (20 to 40 gm). These doses are much greater than recommended. The drug should be given cautiously and in small amounts, to patients who have suicidal tendencies. In cases where excessive doses have been taken, sleep ensues rapidly and blood pressure, pulse, and respiratory rates are reduced to basal levels. Hyperventilation has been reported occasionally. Any drug remaining in the stomach should be removed and symptomatic treatment given. Should respiration become very shallow and slow, CNS stimulants, e.g., caffeine, Metrazol, or amphet-

mine, may be cautiously administered. If severe hypotension develops, pressor amines should be used parenterally to restore blood pressure to normal levels.

ADVERSE REACTIONS: A small percentage of patients may experience nausea with or without vomiting and epigastric distress. Dizziness occurs rarely when meprobamate and ethoheptazine citrate with aspirin is administered in recommended dosage. The meprobamate may cause drowsiness but, as a rule, this disappears as therapy is continued. Should drowsiness persist and be associated with ataxia, this symptom can usually be controlled by decreasing the dose, but occasionally it may be desirable to administer central stimulants such as amphetamine or mephentermine sulfate concomitantly to control drowsiness.

A clearly related side effect to the administration of meprobamate is the rare occurrence of allergic or idiosyncratic reactions. This response develops, as a rule, in patients who have had only 1-4 doses of meprobamate and have not had a previous contact with the drug. Previous history of allergy may or may not be related to the incidence of reactions.

Mild reactions are characterized by an itchy urticarial or erythematous, maculopapular rash which may be generalized or confined to the groin. Acute nonthrombocytopenic purpura with cutaneous petechiae, ecchymoses, peripheral edema, and fever have also been reported.

More severe cases, observed only very rarely, may also have other allergic responses, including fever, fainting spells, angioneurotic edema, bronchial spasms, hypotensive crises (1 fatal case), anaphylaxis, stomatitis and proctitis (1 case), and hyperthermia. Treatment should be symptomatic, such as administration of epinephrine, antihistamine, and possibly hydrocortisone. Meprobamate should be stopped, and reinstitution of therapy should not be attempted.

Rare cases have been reported where patients receiving meprobamate suffered from aplastic anemia (1 fatal case), thrombocytopenic purpura, agranulocytosis, and hemolytic anemia. In nearly every instance reported, other toxic agents known to have caused these conditions have been associated with meprobamate. A few cases of leukopenia during

continuous administration of meprobamate are reported, most of these returned to normal without discontinuation of the drug.

Impairment of accommodation and visual acuity has been reported rarely.

OVERDOSE: Two instances of accidental or intentional significant overdose with ethoheptazine citrate combined with aspirin have been reported. These were accompanied by symptoms of CNS depression, including drowsiness and light-headedness, with uneventful recovery. However, on the basis of pharmacological data, it may be anticipated that CNS stimulation could occur. Other anticipated symptoms would include nausea and vomiting. Appropriate therapy of signs and symptoms as they appear is the only recommendation possible at this time. Overdosage with ethoheptazine combined with aspirin would probably produce the usual symptoms and signs of salicylate intoxication. Observation and treatment should include induced vomiting or gastric lavage, specific parenteral electrolyte therapy for ketoacidosis and dehydration, watching for evidence of hemorrhagic manifestations due to hypoprothrombinemia which, if it occurs, usually requires whole-blood transfusions.

DESCRIPTION: Each Equagesic tablet contains 150 mg meprobamate, 75 mg ethoheptazine citrate and 250 mg aspirin.

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*This drug has been evaluated as possibly effective for this indication.

Wyeth Laboratories
Philadelphia, PA 19101





Down with pain

Step up to reliable relief

for mild to moderate pain

Wygesic[®]

(65 mg propoxyphene HCl and 650 mg acetaminophen) Wyeth

More than twice as much acetaminophen as the leading combination plus a full therapeutic dose of propoxyphene...all in a convenient, economical single tablet.

WYGESIC—Abbreviated Summary

INDICATION: For the relief of mild-to-moderate pain.

CONTRAINDICATION: Hypersensitivity to propoxyphene or to acetaminophen.

WARNINGS: CNS ADDITIVE EFFECTS AND OVERDOSE: Propoxyphene in combination with alcohol, tranquilizers, sedative-hypnotics, or other CNS depressants has an additive depressant effect. Patients taking this drug should be advised of the additive effect and warned not to exceed the dosage recommended. Toxic effects and fatalities have occurred following overdoses of propoxyphene alone or in combination with other CNS depressants. Most of these patients had histories of emotional disturbances or suicidal ideation or attempts, as well as misuse of tranquilizers, alcohol, or other CNS-active drugs. Caution should be exercised in prescribing large amounts of propoxyphene for such patients (see Management of Overdosage).

DRUG DEPENDENCE: Propoxyphene can produce drug dependence characterized by psychic dependence and less frequently, physical dependence and tolerance. It will only partially suppress the withdrawal syndrome in individuals physically dependent on morphine or other narcotics. The abuse liability of propoxyphene is qualitatively similar to codeine's although quantitatively less, and propoxyphene should be prescribed with the same degree of caution appropriate to the use of codeine.

USAGE IN AMBULATORY PATIENTS: Propoxyphene may impair the mental and/or physical abilities required for potentially hazardous tasks, e.g. driving a car or operating machinery. Patients should be cautioned accordingly.

USAGE IN PREGNANCY: Safe use in pregnancy has not been established relative to possible adverse effects on fetal development. INSTANCES OF WITHDRAWAL SYMPTOMS IN THE NEONATE HAVE BEEN REPORTED FOLLOWING USAGE DURING PREGNANCY. Therefore, propoxyphene should not be used in pregnant women unless, in the

judgement of the physician, the potential benefits outweigh the possible hazards.

USAGE IN CHILDREN: Propoxyphene is not recommended for children because documented clinical experience has been insufficient to establish safety and a suitable dosage regimen in the pediatric group.

PRECAUTIONS: Confusion, anxiety, and tremors have been reported in a few patients receiving propoxyphene concomitantly with orphenadrine. The CNS depressant effect of propoxyphene may be additive with other CNS depressants, including alcohol.

ADVERSE REACTIONS: The most frequent adverse reactions are dizziness, sedation, nausea, and vomiting. These seem more prominent in ambulatory than in nonambulatory patients; some of these reactions may be alleviated if the patient lies down. Other adverse reactions include constipation, abdominal pain, skin rashes, light-headedness, headache, weakness, euphoria, dysphoria, and minor visual disturbances. The chronic ingestion of propoxyphene in doses over 800 mg per day has caused toxic psychoses and convulsions. Cases of liver dysfunction have been reported.

DRUG INTERACTIONS: Propoxyphene in combination with alcohol, tranquilizers, sedative-hypnotics, and other CNS depressants has an additive depressant effect. Patients taking this drug should be advised of the additive effect and warned not to exceed the dosage recommended (see Warnings). Confusion, anxiety, and tremors have been reported in a few patients receiving propoxyphene concomitantly with orphenadrine.

MANAGEMENT OF OVERDOSEAGE SYMPTOMS: The manifestations of serious overdosage with propoxyphene are similar to those of narcotic overdosage and include respiratory depression (a decrease in respiratory rate and/or tidal volume, Cheyne-Stokes respiration, cyanosis), extreme somnolence progressing to stupor or coma, pupillary constriction, and circulatory collapse. In addition to these characteristics, which are reversed by narcotic antago-

nists such as naloxone, there may be other effects. Overdoses of propoxyphene can cause delay of cardiac conduction as well as focal or generalized convulsions, a prominent feature in most cases of severe poisoning. Cardiac arrhythmias and pulmonary edema have occasionally been reported, and apnea, cardiac arrest, and death have occurred.

Symptoms of massive overdosage with acetaminophen may include nausea, vomiting, anorexia, and abdominal pain beginning shortly after ingestion and lasting for 12 to 24 hours. However, early recognition may be difficult since early symptoms may be mild and nonspecific. Evidence of liver damage is usually delayed. After the initial symptoms, the patient may feel less ill, however, laboratory determinations are likely to show a rapid rise in liver enzymes and bilirubin. In case of serious hepatotoxicity, jaundice, coagulation defects, hypoglycemia, encephalopathy, coma, and death may follow. Renal failure due to tubular necrosis, and myocardialopathy, have also been reported.

Ingestion of 10 grams or more of acetaminophen may produce hepatotoxicity. A 13-gram dose has reportedly been fatal.

TREATMENT: Primary attention should be given to the reestablishment of adequate respiratory exchange through provision of a patent airway and institution of assisted or controlled ventilation. The narcotic antagonists naloxone, nalorphine, and levallorphan are specific antidotes against the respiratory depression produced by propoxyphene. An appropriate dose of one of these antagonists should be administered preferably I.V., simultaneously with efforts at respiratory resuscitation and the antagonist should be repeated as necessary until the patient's condition remains satisfactory. In addition to a narcotic antagonist the patient may require careful titration with an anticonvulsant to control seizures. Analeptic drugs (e.g. caffeine or amphetamine) should not be used because of their tendency to precipitate convulsions.

Oxygen, IV fluids, vasopressors and other supportive measures should be used as indicated. Gastric lavage may be helpful. Activated charcoal can absorb a significant amount of ingested propoxyphene. Dialysis is of little value in poisoning by propoxyphene alone. Acetaminophen is rapidly absorbed and efforts to remove the drug from the body should not be delayed. Copious gastric lavage and/or induction of emesis may be indicated. Activated charcoal is probably ineffective unless administered almost immediately after acetaminophen ingestion. Neither forced diuresis nor hemodialysis appears to be effective in removing acetaminophen. Since acetaminophen in overdose may have an antidiuretic effect and may produce renal damage, administration of fluids should be carefully monitored to avoid overload. It has been reported that mercaptamine (cysteine) or other thiol compounds may protect against liver damage if given soon after overdosage (8-10 hours). N-acetylcysteine is under investigation as a less toxic alternative to mercaptamine, which may cause anorexia, nausea, vomiting, and drowsiness. Appropriate literature should be consulted for further information (JAMA 237:2406-2407, 1977). Clinical and laboratory evidence of hepatotoxicity may be delayed up to one week. Acetaminophen plasma levels and half-life may be useful in assessing the likelihood of hepatotoxicity. Serial hepatic enzyme determinations are also recommended.

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Committee Conclave 1981: A Report

The 23rd Annual NCMS Committee Conclave was held September 23-26, 1981, in Southern Pines. The following highlights some of the action taken. For more details see the President's Newsletter in this issue.

The COMMITTEE on HEALTH PLANNING & DEVELOPMENT recommended the reaffirmation of Report J, adopted by the 1981 House of Delegates, which calls for support of health planning on a local basis and for repeal of the federally mandated program known as the National Health Planning and Development Act; voiced its continued opposition to certificate-of-need legislation; and encouraged the local medical societies to take the initiative in assessing community needs and to help develop health services to meet those needs.

Although the Jail Project will be discontinued in its present form after December 31, 1981, the COMMITTEE ADVISORY to the JAIL PROJECT recommended that the local medical societies establish committees to evaluate health care in the county jails.

The COMMITTEE LIAISON to the DEPARTMENT OF HUMAN RESOURCES called for necessary changes in the state personnel regulations governing the qualifications for appointment as Local Health Director to the end that acceptable candidates have completed or be enrolled in a prescribed graduate education program in public health and have had administrative experience in a health field.

The COMMITTEE on RELATIONSHIPS BETWEEN MEDICINE and NURSING endorsed the development, through the efforts of the Society's representatives on the Joint Practice Committee, of constructive dialogue between nursing and medicine concerning the drafting of the "Proposed Rules and Regulations," a document dealing with the revised Nurse Practice Act.

The data collection efforts by the State AHEC program regarding manpower surveys for allied health professionals was endorsed by the COMMITTEE on ALLIED HEALTH PERSONNEL.

The COMMITTEE on PHYSICIANS' HEALTH and EFFECTIVENESS will contribute any money remaining from its budget at the end of the fiscal year to a separate N.C. Medical Society Foundation account. The Committee encourages members to make contributions to the Foundation to be earmarked for assistance to physicians through the Committee.

Mrs. Donald S. Stone ("Bunny") was recognized by the COMMITTEE on CANCER for her contributions as the Executive Vice President of the N.C. Division of the American Cancer Society, Inc. to the detection, treatment, and reduction of risk of cancer. The Committee reported on Senate Bill 375, ratified by the N.C. General Assembly this year, which is enabling legislation that for the first time mandates the State Cancer Control/Registry. Through this bill, the Committee's role is defined as that of consultant to the Department of Human Resources, and the Committee's membership is to include "at least one physician from each Congressional District."

The COMMITTEE ADVISORY to MEDICAL STUDENTS, noting a revived interest in the State Society by this group, called upon the local chapters to help facilitate communication between the students and the State Society.

The Honorable George W. Miller, Jr., State Representative of Durham, was recognized by the COMMITTEE on TRAFFIC SAFETY for his efforts towards the passage of legislation in the cause of highway safety in N.C.

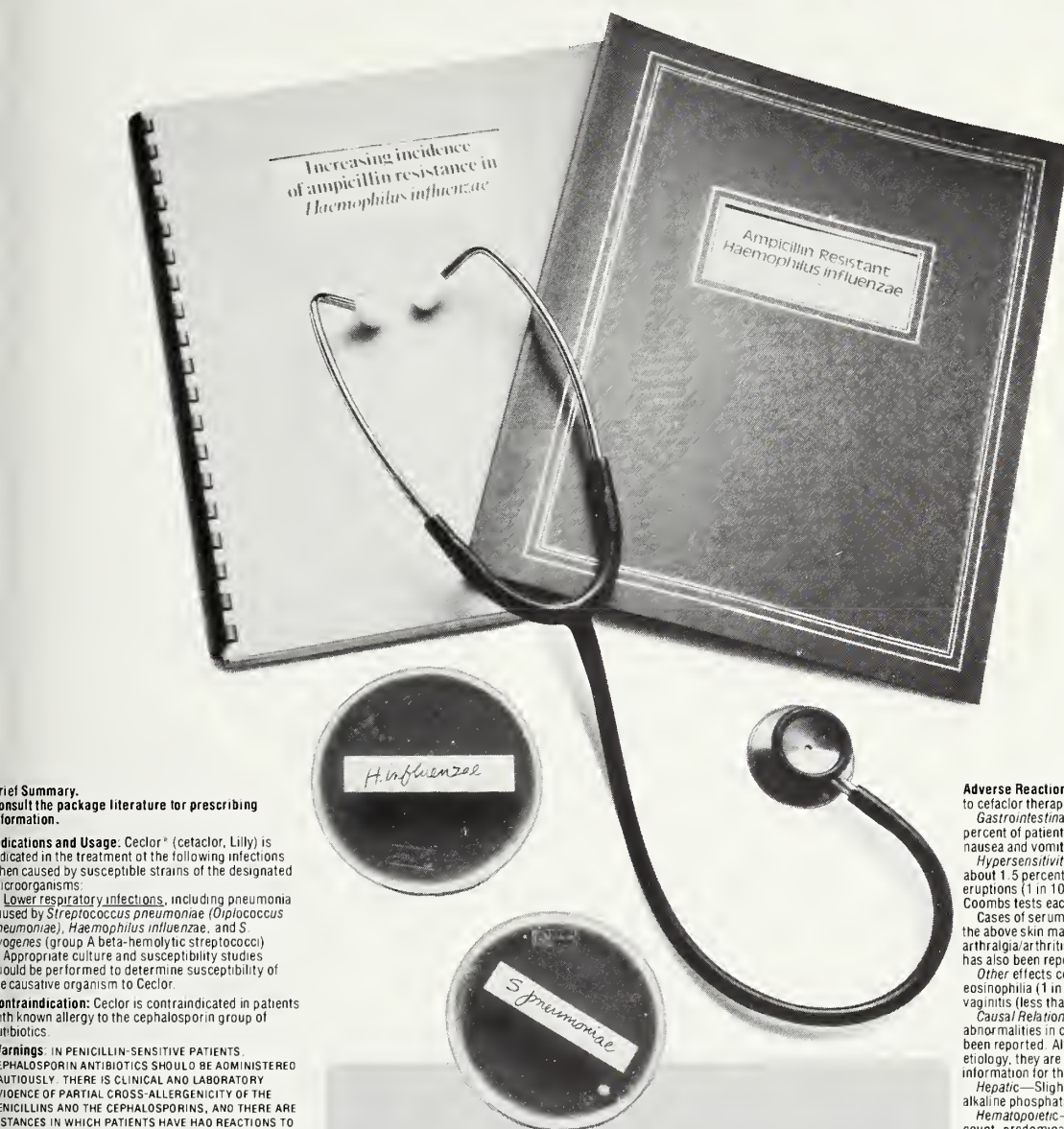
The COMMITTEE on COMMUNICATIONS approved a Public Service Announcement (PSA) on child abuse and will sponsor one on fetal alcohol syndrome and one on child restraints. The Committee is developing a slide presentation, to be completed soon, for membership recruitment purposes. It was announced that the Conference for Medical Leadership (February 4-5, 1982, Winston-Salem) has been re-named the NCMS Mid-Winter Conference.

The COMMITTEE on ETHICS and RELIGION reported on the success of its retreat on "Ethical Principles in Relation to Medical Practice," a review of which **will** be submitted to the Journal as will a series of case studies involving ethical principles. The Committee is helping plan a project on the "Humanities and the Professions" which will include seminars for practicing physicians.

Upon the recommendation of the MEDICAL-LEGAL COMMITTEE, the President has appointed an ad hoc committee to study and make recommendations regarding a risk management program for the Society.

The COMMITTEE on LEGISLATION reported on its efforts during the 1981 N.C. General Assembly session. Of major concern is S.B. 411, which redefines the practice of Chiropractic and which has been held over until the 1982 session. The Committee **will** continue to work with legislators on this issue and urged members to become involved. Also of special interest was S.B. 578, the repeal of the 1977 Optometric Drug Use Law, which, despite great efforts, will not be eligible for consideration until 1983.

An added complication... in the treatment of bacterial bronchitis*



Brief Summary. Consult the package literature for prescribing information.

Indications and Usage: Cefclor* (cefaclor, Lilly) is indicated in the treatment of the following infections when caused by susceptible strains of the designated microorganisms:

Lower respiratory infections, including pneumonia caused by *Streptococcus pneumoniae* (*Diplococcus pneumoniae*), *Haemophilus influenzae*, and *S. pyogenes* (group A beta-hemolytic streptococci). Appropriate culture and susceptibility studies should be performed to determine susceptibility of the causative organism to Cefclor.

Contraindication: Cefclor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics.

Warnings IN PENICILLIN-SENSITIVE PATIENTS. CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY. THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS, AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIONS TO BOTH DRUG CLASSES (INCLUDING ANAPHYLAXIS AFTER ORAL USE).

Antibiotics, including Cefclor, should be administered cautiously to any patient who has demonstrated some form of allergy, particularly to drugs.

Precautions: If an allergic reaction to cefaclor occurs, the drug should be discontinued, and, if necessary, the patient should be treated with appropriate agents, e.g., antihistamines, or corticosteroids.

Prolonged use of cefaclor may result in the overgrowth of nonsusceptible organisms. Careful observation of the patient is essential. If superinfection occurs during therapy, appropriate measures should be taken.

Positive direct Coombs tests have been reported during treatment with the cephalosporin antibiotics. In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on a minor side or in Coombs testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs test may be due to the drug. Cefclor should be administered with caution in the presence of markedly impaired renal function. Under such a condition, careful clinical observation and laboratory studies should be made because safe usage may be lower than that usually recommended.

As a result of administration of Cefclor, a false-positive reaction for glucose in the urine may occur. This has been observed with Benedict's and Fehling's solutions and also with Clinitest® tablets but not with Tes-Tape® (Glucose Enzymatic Test Strip, USP, Lilly). **Usage in Pregnancy**—Although no teratogenic or fertility effects were seen in reproduction studies in mice and rats receiving up to 12 times the maximum human dose or in ferrets given three times the maximum human dose, the safety of this drug for use in human pregnancy has not been established. The benefits of the drug in pregnant women should be weighed against a possible risk to the fetus.

Usage in Infancy—Safety of this product for use in infants less than one month of age has not been established.

Some ampicillin-resistant strains of *Haemophilus influenzae*—a recognized complication of bacterial bronchitis*—are sensitive to treatment with Cefclor.¹⁻⁶

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Other effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients).

Causal Relationship Uncertain—Transient abnormalities in clinical laboratory test results have been reported. Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician.

Hepatic—Slight elevations in SGOT, SGPT, or alkaline phosphatase values (1 in 40).

Hematopoietic—Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40).

Renal—Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200).

[1030808]

*Many authorities attribute acute infectious exacerbation of chronic bronchitis to either *S. pneumoniae* or *H. influenzae*.

Note: Cefclor* (cefaclor) is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients.

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever. See prescribing information.

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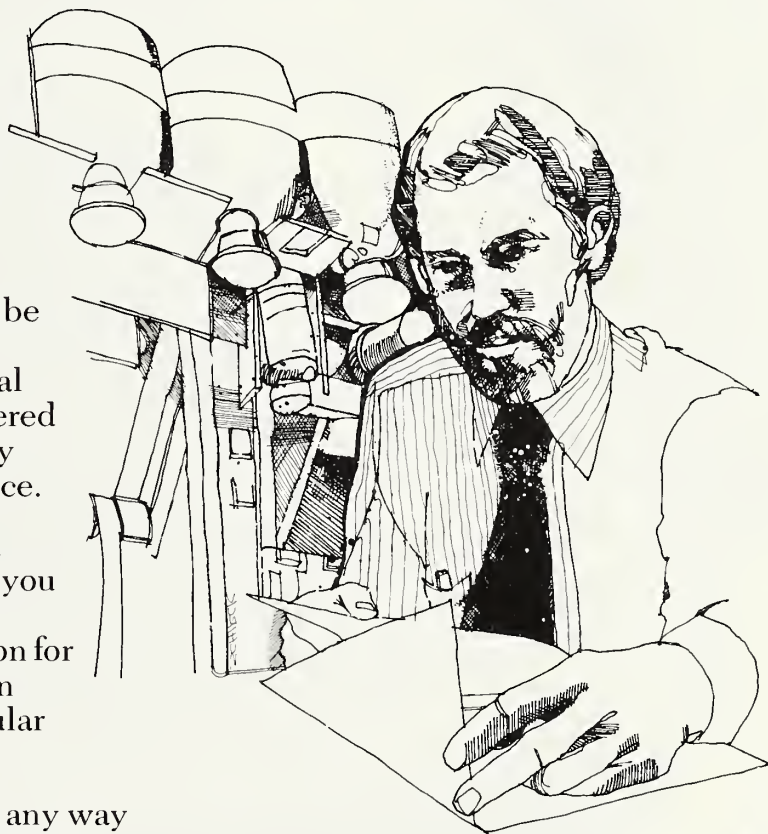
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The New Tertiary Obstetrical Center: More Than Men and Machines

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ABSTRACT The establishment of tertiary level obstetrical centers provokes numerous referrals that may quickly exceed the capacity of a new institution. This hospital became a referral center by the development of an intensive care nursery and by self-proclamation without any further preparation. When it began receiving maternal referrals it was ill-equipped to handle them in the numbers which quickly exceeded its capacity. The presence of highly skilled obstetricians, an intensive care nursery and large numbers of electronic monitors do not a tertiary center make. Institutions embarking on the development of highly technical feto-maternal services must prepare in many ways other than simply adding men and machines.

THE East Carolina University School of Medicine developed operational clinical departments in 1977. The Department of Obstetrics and Gynecology had acquired three faculty members including a trained perinatologist by July 1978 and began formally accepting maternal transfers on that date. The medical school was developed utilizing an expanding community hospital as its major teaching affiliate. While

the hospital had previously served a large rural area, it had not functioned as a tertiary care center. The presence of the developing school, however, provoked numerous referrals, in spite of protestations by physicians, nursing staff and hospital administrators that they were not prepared.

The school was developed to serve the medical needs of the entire state, but traditional trading patterns dictated that the primary service area of the hospital consisted of 29 counties with a combined population of one million people (35% nonwhite), fewer than 40 trained obstetrician-gynecologists, more than 16,000 deliveries a year and perinatal mortality rates exceeding national averages. Pitt County, site of the school and among the most urban of the 29 counties, had a perinatal mortality rate in 1972-76 of 31.9, including a nonwhite perinatal mortality of 41.4. During the same five-year period, 16 of the 29 counties had total perinatal mortality rates exceeding 30 and 13 had nonwhite perinatal mortality rates exceeding 40. As examples, nonwhite perinatal mortality rates of 64.1, 54, 80 and 52.1 existed in that time period in four counties.¹

Pitt County Memorial Hospital was the site of approximately 1,400 deliveries in 1976 of which 52% received their antenatal health care through the county health department clinic staffed solely by nurses

and nurse practitioners. Most of these 52% were nonwhite, and as an anecdotal aside, there were, in 1977, upon the arrival of the senior author in the community, no identified diabetic patients in this population. These patients were delivered in Pitt County Memorial Hospital by private providers. Under the circumstances, excellent care was given, but it was care which was crisis-oriented and frequently given at a point at which intervention was useless.

The nursing staff, hospital administration and all other support services were accustomed to dealing with serious obstetrical complications but these occurred sporadically. There was rarely if ever a maternal death, almost all patients had short hospital stays and nurses in the labor and delivery suites were assumed by nurses in other areas to have relatively easy jobs which required little expertise. The addition of high risk referrals, the demand by physicians for sophisticated nursing support and the introduction of highly technical methods of pregnancy monitoring created an emotional stress which resulted within a year in the resignation of virtually every nurse assigned to the center at the outset of its development.

Nursing and part-time physician staff members objected to the long hospital stays of some of the referred patients and the resultant encroachment on the availability of

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beds. That the patients were generally quite ill in no way diminished the belief that pregnancy remains simply a physiological process and that these prolonged hospitalizations constituted overutilization. The tertiary center had its beginnings in this ambience.

The state of North Carolina has sponsored a pilot regional perinatal project since 1974 and the legislature has funded perinatal care in increasing numbers of dollars since that time. No formal regionalization plan has been implemented, however, although final guidelines are being drawn up and further implementation is anticipated for 1981. State and federal perinatal guidelines and recommendations of the American College of Obstetricians and Gynecologists have been widely distributed to obstetricians in the state so that the general criteria for referral are known to at least some of the physician population. Tertiary level hospitals have been designated, but no formal designation of primary and secondary level institutions has been made. It seems a safe assumption that North Carolina has a pilot project which has been effective, is widely known among physicians considering referrals but has no formal structure within which institutions define the level of care for which they have the capability. There exists no structured area-wide transportation system. A tertiary level center, therefore, was developed in a community hospital by administrative edict in an area of great need but with little preparation for that development. The cardinal event that signaled the opening of the center was the announcement of the opening of the intensive care nursery. Some of the results follow.

TERTIARY CENTER STATISTICS

In the first year of operation of the regional center (July 1, 1978-June 30, 1979), there were 74 referrals. Almost twice as many patients (159) were referred in the second year (July 1, 1979-June 30, 1980) for a total of 233. This represents in the second year a referral rate just under one patient every other day.

TABLE I
MEDICAL INDICATIONS FOR TRANSFER

| | |
|--|------------|
| Hypertensive Disorder | 44 |
| Premature Labor | 68 |
| Premature Rupture of Membranes | 67 |
| Diabetes Mellitus | 8 |
| Bleeding | 13 |
| Size-Data Discrepancy (including intrauterine growth retardation) | 5 |
| Cardiac Abnormality | 3 |
| Herpes | 1 |
| Fetal Abnormalities | 3 |
| Intrauterine Fetal Demise | 1 |
| Other | 6 |
| TOTAL | 219 |

Thus, in any given week the obstetrical service had three new transfers and, due to prolonged hospital stays, would manage not infrequently as many as six to 10 complicated obstetrical inpatients at any one time. The medical indications for referral are listed in Table I. One hundred and thirty-five patients were referred for either premature labor or premature rupture of membranes with estimated gestational ages ranging from 20 to 36 weeks. Hypertensive disorders were the second most common reason for referral. Since there exists an inordinately high incidence of hypertension in the local population, as many as five patients with severe hypertension were residing at one time in a labor and delivery area of six labor beds and two recovery room beds.

Three maternal deaths occurred on the service, two of them among the 219 transfers. One patient was referred with a massive intracerebral hemorrhage near term. When the neurosurgical team determined brain death, cesarean section was carried out. The infant was living and well at the time of discharge. The mother died the day following section. One patient, admitted with severe derangement of liver function, developed disseminated intravascular coagulation followed by fetal death in utero and subsequently died after developing overwhelming sepsis in the presence of aplasia of the bone marrow. The third patient, a local resident, admitted with a severe hypertensive disorder, suffered a cardiac arrest

and could not be resuscitated. Autopsy was not obtained.

As expected, all hospital-to-hospital transfers were initiated by physicians. It is interesting to note, however, that of the 77 patients referred from an ambulatory care setting, 72 were made from health departments. Most of these occurred either at the initiation of a consulting physician or with his approval but almost all these referrals were patients attending a health department for their prenatal care. Health departments in eastern North Carolina generally provide care to indigent patients, a majority of whom are nonwhite. On the other hand, very few referrals were made by physicians from their offices and most of the referred patients were hospitalized before transfer.

There were 19 perinatal deaths (Table II) among the 159 deliveries in 1979-80, including a set of twins and single deaths in two other sets of twins. Ten of the deaths occurred in patients in whom no fetal heart was audible on admission or in whom anomalies incompatible with life were found. These are grouped together because all 10 were considered unpreventable. In the remaining nine patients, either attempts at stopping labor were unsuccessful or maternal or fetal condition mandated delivery. The variety of anomalies, immature and premature births are representative of the type of patient that is generally referred to this

TABLE II
1979 PERINATAL DEATHS

| | |
|--|-----------|
| No audible fetal heart tones (3 with anomalies incompatible with life) | 6 |
| Anomalies incompatible with life (live born or alive in utero on admission) | 4 |
| Birth weight < 1,000 grams 1—twin to twin transfusion 1—immaturity 1—breech, beta methasone, immaturity | 3 |
| Birth weight 1,000-1,500 grams 1—severe respiratory distress syndrome | 1 |
| Birth weight 1,500-2,000 grams 1—group B streptococcal infection 2—necrotizing enterocolitis | 2 |
| Birth weight 2,000-2,500 grams 1—severe respiratory distress syndrome | 1 |
| Birth weight > 2,500 grams 1—meconium aspiration, intrauterine growth retardation | 1 |
| Birth weight unlisted 1—chronic hypertension, abruption at 36 weeks | 1 |
| TOTAL | 19 |

center. Perinatal deaths for 1978-79 are not shown because of incomplete information.

The cesarean section rate for nonreferred patients was 15.6%, while that for referred patients was 35%. This section rate in referred patients resulted in part from a policy of cesarean section for all premature breech births, section for most term breech births and an attitude of use of section for maternal hypertension and diabetes in the presence of induction failure or clearly unripe cervix. It should be noted that of the 321 sections performed in this institution, only four were carried out when fetal heart abnormality was the primary indication, although, as noted, this rate was achieved in a population which included an inordinately high number of patients with complicated antepartum and intrapartum problems.

The labor and delivery area at Pitt County Memorial Hospital was designed for a community hospital and was more than adequate for the expected growth of the community with six labor beds, two recovery beds and three delivery rooms. Numbers of deliveries for 1976-80 are shown in Table III; it may be seen that the numbers have increased by almost one-half. This increase is due in small part to an increase in size of the local population and in some measure due to the appeal of the hospital to residents of surrounding counties. Most of the over 600 additional deliveries projected in 1980 over 1976, however, reflect maternal hospital transfers and maternal referrals to the regional perinatal clinic. In essence, the addition of the medical school, the presence of high risk obstetrical and neonatal facilities and the

spreading appeal of the medical center provoked a 50% increase in the number of deliveries, only a few of which were uncomplicated. In 1976, the hospital had a patient population of 20% from outside Pitt County; in 1980, this figure had risen to 44%.

DISCUSSION

These results suggest that there exists in this rural area an enormous need for improved obstetrical services and that even without a formal regionalization plan, patients and physicians utilize the referral center. The types of patients referred indicate that physicians are aware of and use regional guidelines even though they have never been officially implemented in this state. The absence of secondary level hospitals provokes some referrals which might well have been cared for in such institutions, but most patients required highly skilled care. There must obviously remain a large population at high risk who do not require tertiary care, but the site of the current provision of this care is unknown.

Most referrals to a tertiary center for inpatient antepartum care originate in health departments and all hospital-to-hospital referrals were made by physicians. Since the numbers for antepartum referrals and health department referrals are very nearly the same, these findings suggest that antenatal problems which occur in patients attended by private physicians are likely to be handled locally and referred after hospitalization rather than before. It is impossible to know whether so-called private patients simply are hospitalized locally more readily or whether lack of financial support dictates that the patient receiving care at a health department is more readily referred as a "teaching case." These findings do suggest that lack of funding may prompt earlier referral of the nonpaying patient.

The demand for the services of a medical center in a rural area with significant health problems — poverty, malnutrition, high incidence of teenage pregnancy, long distances between urban areas,¹ — is enor-

mous and a medical center can only attempt to cope effectively through the development of efficient and effective primary and secondary obstetrical services in the region. Transfers to the inpatient service constitute only a portion of the increased demand at the medical center since, as shown in Table III, many other patients are attracted to the center via ambulatory care clinics of the center, at least some of which could have been screened in facilities of lesser sophistication. It seems apparent to us, then, that primary and secondary level centers must be developed concomitantly with, not after, tertiary center development.

There is, further, an obvious need to provide for increased use of the hospital services by residents from areas not previously served. Most hospitals in North Carolina derive their support from tax dollars generated from a specific tax base, most commonly a single county. State support helped to ease the financial burden in this institution, but more medically indigent and out-of-county patients could provide serious financial difficulty in other circumstances. Obviously, funding must be considered before and not after tertiary and secondary level centers are developed.

A number of assumptions were made at the outset of this center development regarding nurses and nursing service, almost all of which were incorrect and have subsequently been altered. Our adjusted views now include: (1) not all nurses wish to further their education and upgrade their skills; (2) nurses who work in obstetrics chose that field because it is "happy" and may be emotionally unprepared for disastrous complications and deaths — they get out quickly because they are unprepared to deal with the internal conflicts so created; and (3) even for nurses who elect to work in high risk obstetrical problems, there is an emotional price to be paid, and these nurses may eventually lose interest and enthusiasm. Thus, the attrition rate for such nurses may always be great. Nurses must be trained technically and prepared emotionally if they are to function

TABLE III
OBSTETRICAL DELIVERIES
PITT COUNTY MEMORIAL HOSPITAL

| Year | No. |
|------|---------|
| 1976 | 1,467 |
| 1977 | 1,514 |
| 1978 | 1,630 |
| 1979 | 1,758 |
| 1980 | 2,000+* |

*Projection based on ten months of 1980

adequately in a high risk obstetrical facility.

There existed at the outset of this center development a view that obstetrics is not an intensive care specialty, a contention which persists to a lesser degree even today. This belief was based on an historical tradition rooted in physician, nurse and administration acceptance of labor and delivery as physiologic events requiring little in the way of expertise. As a result, the need for more sophisticated nursing services, expansion of equipment and enhancement of ancillary support services for obstetrics was viewed with skepticism because of a lack of understanding by hospital and community that a need existed. There was and is, however, general acceptance that an intensive care nursery offers highly specialized care. The neonatal unit was opened with a great deal of fanfare and the unit received much regional publicity. The fact that only a small percentage of the beds could be opened received significantly less publicity and the assumption was made by physicians and lay public alike that the perinatal division was fully operational. Also, no mention was made of the fact that the obstetrical unit still had a community hospital capacity. To the surprise of many of us in obstetrics, area physicians

began referring pregnant women in large numbers, as well as newborns requiring tertiary care. The small nursery which provoked the referrals was quickly overrun and serious disputes arose between obstetricians and neonatologists. Obstetricians were berated for refusing to accept transfers and they in turn blamed the neonatologists because the nursery was filled. In addition, obstetricians were put in the position of either accepting maternal transfers they were ill-equipped to handle or of trying to explain to an unsympathetic referring physician that the patient could not be helped. There is a tendency, even by referring obstetricians, to believe that high risk obstetrical services can be offered any place there is a board certified physician, a labor bed, a delivery table and an intensive care nursery. It may seem so self-evident as to make trite the statement, but the development of an intensive care nursery and of a highly sophisticated obstetrical unit must be parallel and obstetrical units require modernization as much as nurseries. Some of the pride in offering new services in public institutions needs to be offset by candor regarding the institution's real capacity.

Referral of many patients who require much of the institution's re-

sources and energy limits the ability of the institution to care for low risk patients. This impact could have been avoided only had it been foreseen, had the building been constructed for two kinds of obstetrical services and had the support services been oriented from the outset to the divergent needs. All of these considerations dictate the chronically recurring theme that the combination of competent physicians and self-appointment does not a tertiary center make, but these same considerations can portend a deleterious effect on the services offered the non-high risk patient. In other words, self-proclaimed sophistication may not accomplish the goal of achieving a tertiary center, rather it may serve only to frustrate those nontertiary functions of the hospital which were done well before the center was developed. We believe we have been successful in our efforts to build a sophisticated facility for complicated obstetrical problems but we recommend to others that extensive preparation without the pressure of demand for service will permit much more orderly and logical development.

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1. North Carolina Maternal and Child Health Statistics, Department of Human Resources, Division of Health Services, Raleigh, N.C.

REVIEWER'S COMMENT

Without comprehensive coordinated planning and implementation of tertiary level perinatal care by those who will deliver the service at all levels, unrealistic expectations by the public and physicians alike inevitably occur, unnecessary conflicts between referring and recipient physicians arise and primary level care previously more than adequate may suffer under the burden of tertiary care commitments. In their paper, "The New Tertiary Obstetrical Center: More Than Men

and Machines," Dr. Brame and his colleagues describe one such experience when "a tertiary level center was developed in a community hospital by administrative edict in an area of great need but with little preparation for that development." These authors should be commended for their singularly objective commentary and for elucidating unexpected attitudinal, emotional and interpersonal problems that attend such radical changes in medical care in an institution and area

ill-prepared for them. Interestingly, they observe that financing, although a perennial concern, was not as big a problem as the lack of candor regarding the reality of the institution's capacity. One would hope that this experience will serve as a guide to legislators, health planning agencies, and health providers in their future development of similar facilities.

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Miliary Tuberculosis, With Adult Respiratory Distress Syndrome and a Leukemoid Reaction

Douglas Jay Sprung, M.D.

ABSTRACT Miliary tuberculosis is infrequently associated with a leukemoid reaction (which may be indistinguishable from acute leukemia) and has also been observed to be an uncommon cause of the adult respiratory distress syndrome (ARDS).¹⁻⁶ This report describes a patient who developed ARDS and a leukemoid reaction. At autopsy miliary tuberculosis was discovered and visceral infiltration with leukocytes was not demonstrated. This is a rare combination that should alert the physician to the possibility of miliary tuberculosis.

THE number of cases of miliary tuberculosis diagnosed at autopsy have increased over the past 15 to 20 years, primarily due to cryptic clinical presentations and increased occurrence in the elderly.⁶⁻⁸ Tuberculosis patients presenting with ARDS, leukemoid reactions and/or disseminated intravascular coagulation (DIC) have been described.^{1-6,9-12} Of the 10 cases in the literature linking miliary tuberculosis and ARDS, however, this is the only one with a concomitant leukemoid reaction.

CASE HISTORY

A 78-year-old man with a history of heavy alcohol consumption and

disseminated prostatic cancer (treated with transurethral resection, bilateral orchiectomy and estrogen therapy) had lost 15 lbs in a year when he developed fever, shaking chills and progressive shortness of breath, without cough, sputum production, or chest pain. He was treated for presumptive congestive heart failure and pulmonary edema at a local hospital. Ten days later he was transferred to Duke Hospital following deterioration of his respiratory status and evidence of impaired liver function.

Examination revealed an obese, lethargic, mildly confused man in obvious respiratory distress. Blood pressure was 100/70 mm Hg; pulse 120/min; temperature 39°C; respirations 28/min. Pertinent findings included bilateral coarse rales over the lower lung fields, a grade I/VI systolic murmur with an S₃ gallop, gynecomastia, hepatomegaly and trace peripheral edema. Lab data revealed: hematocrit 30.2%; reticulocyte count 7.2%; white blood cell count 20,400 (64% polys, 12% bands, 4% eosinophils, 17% atypical monocytes, 2% metamyelocytes and 1% myelocyte); BUN 52 mg%; creatinine 2.8 mg%; bilirubin 5.1 mg%; alkaline phosphatase 181 international units (IU/L); lactic dehydrogenase 768 IU/L; platelet count 14,000 per CuMM; prothrombin time (PT) 13.9 secs (control 13.0 secs); activated partial thromboplastin time (APTT) 26

secs. A chest roentgenogram revealed bilateral diffuse alveolar pattern in upper and middle lobes, with sparing of the lower lobes. The arterial pH was 7.54; p_aO₂ 39 mm Hg; p_aCO₂ 26 mm Hg; cerebrospinal fluid, blood and urine cultures were negative. Sputum cultures grew normal flora. Sputum smears were negative for acid fast bacilli on three occasions. Nafcillin, gentamicin, erythromycin and co-trimoxazole were begun.

The patient's respiratory status deteriorated rapidly and the next day he was intubated and placed on a volume cycled respirator. An F_iO₂ of 60% showed pH 7.31; p_aO₂ 82 mm Hg; p_aCO₂ 35 mm Hg. Over the next two days an F_iO₂ of 65-100% was necessary to maintain a p_aO₂ of 65 mm Hg. Hepatic and renal status continued to deteriorate. Haptoglobin was zero, acid phosphatase 0.4 mg%, and Coombs direct test negative. A cutaneous test with intermediate-strength tuberculin was negative. Bone marrow biopsy showed increased cellularity and a dense population of cells with large, pale nuclei and prominent nucleoli and scant faint cytoplasm. Peripheral blood counts varied: WBC 20-40,800; with nucleated RBC 13-67 per 100 WBC; atypical monocytes 13%-28%; bands 4%-12%; PMN 54%-64%. These findings were thought to possibly be consistent with acute leukemia. Blood clotting abnormalities (platelets 13,000; PT

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ratio of 1.7; APTT of 40/24 (control); fibrin split products of 1:64; and fibrinogen 83 mg%) prohibited the performance of a liver biopsy. Respiratory status deteriorated further despite institution of 10-15 cm H₂O of positive end expiratory pressure and the patient expired on the eighth hospital day.

Autopsy revealed disseminated miliary tuberculosis extensively involving the lungs, liver, spleen, adrenals, thyroid and kidneys. A large nodule invading the wall of a blood vessel within the lung parenchyma contained multiple large colonies of AFB and was considered to represent a point of reactivation and dissemination. Histopathological findings of lung sections were consistent with the early exudative changes occurring in ARDS.

DISCUSSION

This case exemplifies an atypical or cryptic clinical presentation of miliary tuberculosis in the elderly; i.e., atypical chest roentgenogram, a hematological and bone marrow morphology compatible with acute leukemia and/or leukemoid reaction, ARDS, DIC and progressive hepatic and renal failure.

In light of no evidence of old granulomatous disease, negative

PPD,¹³ negative sputum, urine, blood and CSF cultures and AFB stains, negative antemortem bone marrow aspirate and biopsy for AFB,¹⁴ and short duration of symptoms, anti-tuberculous therapy did not appear to be indicated, and the patient was suspected of having some other infectious process, possibly associated with acute leukemia.

Some patients diagnosed as having acute leukemia were found at autopsy to have had miliary tuberculosis.¹⁵⁻¹⁷ It is known that hematological changes that occur with tuberculosis can be morphologically indistinguishable from those in acute leukemia.¹⁷ A leukemoid reaction to tuberculosis has usually been diagnosed based on the absence of visceral infiltration; however, Twomey¹⁵ described a case of a patient who recovered from a leukemoid reaction to a granulomatous infection of his spleen caused by acid-fast bacteria, and featuring visceral infiltration of the liver with hematopoietic cells.

It is important to reemphasize that miliary tuberculosis may present as ARDS and/or as a leukemoid reaction which mimics acute leukemia. If the underlying cause is tuberculosis and anti-tuberculous

therapy is instituted early, these patients can successfully be treated.^{2,3}

Acknowledgment

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Peroneal Palsy in Patients With Dementia

E. Wayne Massey, M.D.

ABSTRACT In patients with dementia, cross leg palsy can be a subtle but significant problem. Such patients should be observed closely if this condition is to be recognized and treated.

WOLTMAN¹ described in 1928 two patients with peroneal palsy, both older, inactive people with weight loss and suffering from depression. He observed that "possibly the little understood but suspected depression in the somatic field would contribute to the development of neuritis from pressure." Similarly, it is important to be aware that the patient with dementia is susceptible to repeated peroneal trauma because: (1) it may be subacute and not obvious until the patient stumbles or falls; (2) it is not rare but may be missed if not watched for and sought; and (3) it is often correctable.

Peroneal palsy can be due to pressure from a cast, positioning on the operating table, the prolonged squatting position of farmers, trauma to the lateral knee, animal bites, automobile accidents, and less common causes. Gerhardt² described a case of peroneal palsy which developed in a man who had fallen asleep with his legs crossed. Woltman¹ first suggested that crossing the legs was a definite factor in peroneal palsy, the most common cause today.

A knowledge of anatomy is necessary for diagnosis. During hind limb development a rather exten-

sive rotation carries the peroneal nerve laterad and ventrad over the head or neck of the fibula. In the adult the common peroneal, or anterior tibial nerve, separates from the posterior tibial nerve at the superior aspect of the popliteal fossa and runs laterally around the head or neck of the fibula. There it splits into the superficial and deep peroneal nerves, the deep supplying motor and some sensory innervation to the anterior lower leg, subserving motor function for all muscles that dorsiflex and evert the foot except for two subserved by the superficial peroneal nerve — the peroneus longus and brevis. Sensory innervation to the anterior and lateral leg is supplied by the superficial peroneal nerve except for a small penetrating branch from the deep peroneal nerve which supplies sensation between the first and second toes.

The peroneal nerve comes close to the skin surface for a short distance at the fibular head or neck. When the knees are crossed the peroneal nerve is often wedged between the head of the ipsilateral fibula and the external condyle of the contralateral femur and lateral patella.

Patients complain of numbness of the lower anterolateral leg and often of the dorsum of the foot. The foot may "flop." On examination sensory loss in the area supplied by the peroneal nerve is found and there is weakness in dorsiflexion and eversion of the foot and dorsiflexion of the toes. Usually there is only weakness, and not total paralysis, so it escapes notice unless looked for. There are no reflex changes. A dimple in the skin, localized con-

cave and oval area of pressure atrophy involving subcutaneous tissues overlying the affected peroneal nerve, has been described by Carney³ in some patients. The contralateral patella neatly fits into this contour after the legs are crossed (Figure 1).

Both demented and depressed patients may be apathetic and not inclined to move. They often sit or recline for hours, so pressure palsies are not infrequent, as illustrated by these cases.

CASE I

A 68-year-old retired government service physician began to lose interest in all activities and to feel worthless. His wife stated that his memory had become increasingly poor and that he sat in his chair at



Figure 1: Dimple sign at the fibular neck in a patient with cross leg palsy.

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home most of the day, with his legs crossed. When he failed to read his medical journals, she sought advice.

On examination, he demonstrated poor memory for recent and remote events. Snout and palmental reflexes were present. Psychomotor retardation was evident: he was weak in his right dorsiflexors and evertors. He crossed his right leg over his left often during the interview. There was no evidence of a peripheral neuropathy. Ankle reflexes were present and sensory testing revealed only slight vibratory loss at the toes.

Computerized tomography demonstrated definite cerebral atrophy. Electroencephalogram demonstrated mild bitemporal theta activity but no focal delta activity. Nerve conduction study demonstrated drop of amplitude and velocity across the fibular neck.

He was instructed to not cross his legs, and his wife was informed as well. When next seen, his right leg was definitely improved.

CASE II

A 64-year-old woman was brought in by her family because of increasing memory loss for a year and a half. Her local physician had performed a CT scan which showed thinning of the cerebral cortex and she was referred to see if anything could be done. On examination she had marked loss of recent and remote memory and was mildly agitated. Visual fields were full. There was prominent snout and palmental reflexes. She was an asthenic woman who had marked weakness of both anterior compartment musculature with prominent dimple signs bilaterally at the fibular necks. She frequently crossed her legs during the interview. She was hyporeflexic in all extremities.

Laboratory revealed no metabolic causes of her dementia; however, there was marked slowing of the peroneal nerve conduction bilaterally with dropping of the amplitude across the fibular neck. The tibial nerve conduction was also mildly slowed and sural sensory latency was absent bilaterally. F wave in the

peroneal nerve was not prolonged, however.

The family was advised to prevent her from crossing her legs for long periods.

Follow-up evaluation revealed that strength in her anterior compartment musculature had improved although her dementia was unchanged.

CASE III

A 71-year-old retired lawyer was brought to the hospital by his family due to progressive memory loss for two years. He had maintained appropriateness in dress and continued to go to his office every day. But he could not make appropriate decisions as he had in the past and was quite forgetful. This was of increasing concern to his family. He denied alcohol abuse.

He exhibited marked decrease in recent and remote memory; however, he was able to hide his lack of memory to a considerable degree. His neurological examination was normal except for questionable Babinski signs bilaterally and weakness of the right anterior compartment musculature. He had a dimple sign at the right fibular neck and his family admitted on questioning that he constantly sat with his right leg crossed over his left knee. There was slowing of the right peroneal nerve conduction; no definite block could be demonstrated at the fibular neck.

The family was told about dementia and it was emphasized to them that the patient should not keep his legs crossed. Three months later he no longer had weakness of his right foot.

DISCUSSION

The age of the patient is a factor in etiology. Elderly patients are less occupied with physical activities. Most older people enjoy the well-earned privilege of sitting more often. Tissue bulk is not uncommonly less in the elderly.⁴ Loss of weight is undoubtedly a factor depriving the peroneal nerve of an element of protection, and neuropathy has recently been associated with dieting.⁵ Peroneal palsy is more common in thin than in obese people.¹

Vascular phenomena may affect its onset. Diabetes is well known to predispose patients to peripheral mononeuropathy which is believed to be a vascular phenomenon and crossing the legs in diabetics causes peroneal palsy.⁶ Arteriosclerosis is also known to affect the vasa-norum vessels, which may contribute to ischemia of the nerve when associated with external pressure.

Other systemic diseases make the peripheral nerve more sensitive to pressure, i.e., rheumatoid arthritis, hypothyroidism, nutritional deficiencies, gout, leprosy and Guillain-Barré syndrome.

While Woltman¹ found the condition more common in men, which could be explained by the greater padding of fat in women affording more protection, Carney³ indicated that it is more common in women, especially thin women. It is easier for women to cross their legs with close approximation of body structure round the knee than it is for men because of the discomfort of the male genitalia.

Treatment is straightforward once the problem is recognized. The patient should be warned against crossing their legs at the knees. Most patients are hardly aware that they do this until it is brought to their attention. Since dementia patients will forget or disregard the warning, a pillow or other padding between the legs may facilitate the cure. The family member caring for the patient must be told to watch for it. Occasionally heat or local massage relieves some symptoms.¹ If the palsy is severe enough to make walking hazardous (i.e., tripping on a stairway), a right-angle short-leg catch brace may be useful. Spontaneous remission often occurs if the patient is careful not to cross the legs; an awareness of susceptibility can prevent the occurrence of this condition in others.

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Current Therapy

Thyroid Nodules: 1981

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ABSTRACT The thyroid nodule, often found by the patient and/or the physician during the physical examination, is a common and important clinical problem. Management of patients with thyroid nodules requires clinical discernment, knowledge of the natural history of thyroid disorders, careful selection and interpretation of laboratory and radiological studies, and an experienced thyroid surgeon.

THE management of patients with single or multiple nodules of the thyroid can tax the acumen and judgment of the most experienced clinician. Appropriate treatment of these patients rests on a reasonable working diagnosis of the thyroid abnormality. Although the clinical maxim "when in doubt, cut it out" may still be true, the purpose of this report is to give an update on thyroid diagnosis and management and provide information that will reduce "the doubt before cutting it out."

Clinically the most worrisome problem to the patient and physician is whether the nodule is cancerous. Although thyroid nodules occur in up to 4% of the population,¹ the yearly number of new cases of thyroid carcinoma is only 25 per million.^{2,3} Therein lies the difficulty.

The risk is real but chances are small that any one patient will have cancer.

The history and physical exam are most important in putting the thyroid nodule in the clinical perspective of knowing whether surgical removal is imminently necessary. The patient with a thyroid nodule or goiter may present with a neck mass or the mass may be detected on routine physical evaluation. These patients are usually asymptomatic. Any history of prior irradiation (50-700 rads) to the head or neck should be noted since the incidence of malignancy is up to 7% in these patients.⁴ The latent period from the initial irradiation ranges from 5 to 35 years with average of 20 years. A family history of multiple endocrine adenomatosis II (hyperparathyroidism, pheochromocytoma, and medullary thyroid carcinoma) needs to be excluded. The recent onset of rapidly enlarging neck mass that is firm and/or the history of hoarseness is suggestive of infiltrative malignant disease. A thyroid mass presenting as a single palpable nodule or one that is within a multinodular gland that is very firm, irregular, and/or is adherent to overlying muscle will generally need surgical excision.

Diagnostically the serum thyroid function studies are generally normal in patients presenting with thyroid nodularity. A thyroid panel which includes T₄ (RIA), a measurement of circulating thyroxine (T₄) directly, and RT₃U, an indirect measurement of thyroid binding

globulin, is necessary in evaluating these patients particularly if there is a question of hypo- or hyperthyroidism. In contrast to the thyroid panel, radionuclide thyroid imaging can be quite helpful in patients with thyroid nodules. Malignant cells of the thyroid generally function poorly in trapping and incorporating iodine into thyroglobulin. Scanning with ¹³¹I or ^{99m}Tc-pertechnetate will identify hypofunctioning or "cold" areas within the thyroid that usually correspond to the palpable nodules. Only 20% of all hypofunctioning nodules are malignant. Therefore some discrimination is necessary before recommending surgery.

Benign cysts may represent up to 20% of these hypofunctioning nodules. Thyroid ultrasonography is helpful in making this diagnosis and will identify an echo-free area representing the fluid-filled cyst. Needle aspiration of the cyst offers a simple and often effective treatment.⁵ The aspirated fluid should be sent for cytopathological examination even though there is less than a 4% chance of malignancy in any simple thyroid cyst. Thus, patients who have a "cold" nodule by radionuclide thyroid scan and a cystic mass by ultrasound are treated by needle aspiration. If cytology is negative for cancer cells thyroid suppression with exogenous *l*-thyroxine to prevent recurrence may be used. However, there are no clear data that such treatment with *l*-thyroxine will prevent recurrent cyst formation. Positive cytology requires surgical removal.

The relative risk of carcinoma in a single noncystic hypofunctioning nodule is increased in the following groups: (1) children, (2) males, (3) females under 35, (4) those with prior history of low dose irradiation to head or neck, (5) and those with family history of thyroid cancer. These are the patients with which there is reasonable doubt, and surgical removal of the nodule is often recommended. In patients with previous head and neck irradiation, even in the absence of any palpable thyroid abnormality, a thyroid scan is indicated. If abnormal, surgical removal of the entire gland is advised. In this day of specialization, surgery for the potential removal of thyroid carcinoma should be performed by a surgeon familiar with thyroid anatomy and disease in a facility that has expert pathological consultation readily available.

Most patients with thyroid nodules will be women, 35 and older, who have single or multiple hypofunctioning nodules. For these patients, long term thyroid suppression using *l*-thyroxine 0.15 to 0.20 mg/day will usually prevent further enlargement and often lead to a decrease in nodule size. Should the nodule increase in size (in the absence of bleeding into a cyst) when the gland is adequately suppressed as judged by 24 hour I-131 thyroid uptake of less than 5%, then surgical removal is indicated. The decision to suppress thyroid function in females with thyroid nodules using the criterion of age 35 or greater is somewhat arbitrary and represents a compromise of opinions between several groups.^{6,7} In patients over 65 with small (1-2 cm) nodules in the presence of a multinodular goiter, I usually do not advise thyroid suppression for fear of not suppressing an autonomous functioning area and provoking iatrogenic hyperthyroidism.

The thyroid nodule which is not "cold" but either hyperfunctioning or exhibiting normal image intensity with the remainder of the gland suppressed, can be followed if the patient is euthyroid. Trying to suppress these autonomous functioning areas with exogenous thyroid will usually lead to trouble. Autono-

mously functioning nodules (usually functioning adenomas) may lead to clinical hyperthyroidism when the diameter of the nodule exceeds 3 cm. In the elderly or those who have had previous thyroid surgery and/or irradiation, these nodules may produce an increased amount of triiodothyronine (T₃) leading to T₃-thyrotoxicosis. Surgical resection of these hyperfunctioning adenomas is recommended after a euthyroid state has been achieved with antithyroid medications.⁸ Radioactive I-131 ablation is used for patients with hyperfunctioning adenomas who are poor surgical candidates; the dose required is 25-100 mCi and retreatment is often necessary.

Hyperthyroid patients who have a thyroid panel with both T₄(RIA) and RT₃U increased may present with an autonomously functioning nodule and are managed surgically. Most hyperthyroid patients have diffuse goiter or toxic nodular goiter and are given radioactive iodide as definitive therapy. Pregnant women and children receive antithyroid medication and/or surgery. If the hyperthyroid patient has very low 24-hr thyroid I-131 uptake, the diagnosis of thyroiditis may be made and no therapy other than aspirin ± propranolol is prescribed. It must be remembered, however, that patients with thyrotoxicosis factitia will present with symptomatic hyperthyroidism and a low 24 hr I-131 uptake.

A thyroid panel with both T₄ (RIA) and RT₃U decreased suggests hypothyroidism and additional studies including a measure of serum thyrotropin stimulating hormone (TSH) is needed. When goitrous hypothyroidism is present, the administration of *l*-thyroxine is clearly indicated.

The pregnant female and thyroid nodule present a problem that requires some departure from the therapy outlined above. In these women a thyroid panel is obtained to exclude hypothyroidism or hyperthyroidism which would need appropriate therapy during pregnancy. Thyroid ultrasonography is recommended to delineate whether the nodule is cystic. If cystic, needle

aspiration may be performed. Radionuclide thyroid scanning is done after delivery and patients are managed then as described above.

Recurrence may often be seen months to years later in patients who have had benign "colloid" nodules or goiter removed; generally they have not taken maintenance thyroxine. Patients predisposed to hypofunctioning nodules, whatever the cause, may develop the same problem if they do not receive sufficient exogenous thyroxine. Thus, long term thyroid suppression is important. If a patient develops a nodule while taking adequate exogenous thyroid, radionuclide thyroid scan and possibly surgery are indicated. Patients who have had hyperfunctioning nodules resected do not need thyroid suppression.

No review of the management of thyroid nodules would be complete without comment about needle biopsy. Although the day of the Vim-Silverman needle has passed, fine needle aspiration biopsy is being used^{9,10} safely and with few complications. Adequate sampling, however, is difficult, as is cytopathological interpretation. If the relative risks of thyroid cancer are increased, surgery is still recommended. So why do it? The only indication is in female patients (older than 35) in whom fine needle aspiration may be helpful diagnostically. If cytology for cancer is positive, surgery would be indicated. At Duke we have not routinely done fine needle biopsies of the thyroid.

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SPECIAL ARTICLE

Dedicatory Address Duke University Hospital, North Division

Steven Muller, Ph.D.

ON April 20, 1931, Dr. William H. Welch of Johns Hopkins began his remarks at the dedicatory exercises of Duke University School of Medicine and Duke Hospital with the words: "It is more than an honor and a privilege; it is a genuine *delight* to me to have the opportunity of participating in these dedicatory exercises." Today, just 50 years later, I repeat these sentiments for myself with fervent sincerity.

For all those 50 years, deep ties of mutual respect, personal interchange, collegial friendship, and — yes — affection have bound together the medical institutions of Duke and Johns Hopkins, and these ties will, I trust, continue to link us through the years ahead. I am, alas, a poor substitute for Popsy Welch, but I rejoice in the history that alone justifies my presence. And it is a proud pleasure to bring to you the warm congratulations and deepest good wishes of your colleagues at Johns Hopkins and — if I may be so bold — throughout academic medicine in this country and abroad. During 50 years the Duke University School of Medicine and

Duke Hospital have achieved and maintained excellence, and the magnificent new hospital whose dedication brings us together serves both as a great new means and as a splendid new token of your continued commitment to excellence over the decades ahead. You have had the courage, the vision, and the support required to set your aspirations in concrete, and with an abundance of respect and fair hopes, I salute you.

The moment of dedication is a fitting moment for hope. Permit me, therefore, first to share with you just a very few of my own deep hopes for what you may achieve here with the aid of this resplendent facility and what the rest of us may also strive for in our own places of work. This is a *university* hospital, committed as such to clinical care, teaching and research. And my most urgent hope is that you — and the rest of us — will be able to continue clinical research at the very top of our bent.

Let us remind ourselves of how far in *research* we have come and how far yet we have to go, and what it *cost* to get there and what it *will* cost to get us farther. A huge and still rising proportion of medicine today rests on knowledge *younger* than your 50 years here at Duke — most of it in fact *much* younger. The

widespread use of antibiotics began only about 35 years ago. Modern cardiology essentially developed from and since the 1950s. The list of genetic disorders in which the defective gene product is *known* grew from a mere 15 in 1960 to over 1,000 in 1980. The structure of DNA was identified in 1953, and our understanding of genetics is the product of only the past two decades. Genetic recombination is still in its infancy.

During only the past 30 years, separate discoveries have coalesced to reveal the structure of the brain, and the specific identification of neurotransmitters and mechanisms by which each acts began only within the last decade. In drastic brevity, the accelerating pace of biomedical discovery, of technology and technique, has been literally explosive.

Let us now recall the recent history of the National Institutes of Health. Fifty years ago when you inaugurated the Duke University School of Medicine and Duke Hospital, the NIH was merely a modest public-health laboratory on Staten Island. In 1937 it moved to Bethesda, with a newly created National Cancer Institute. In 1945 the total NIH appropriation was still *under* \$2 million. Between 1956 and 1966 the annual NIH budget ex-

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Given April 25, 1981, for the new North Division, Duke University Hospital, Durham, N.C.

panded 13-fold. The 1969 appropriation was just over a billion dollars. By 1979 the total NIH annual appropriations amounted to \$3.2 billion, which was also \$1.62 billion in 1969 constant dollars — a 49% increase in the decade. Clearly, there is a correlation between the explosion of biomedical research and the explosion in NIH research funding since 1950 — an explosion distorted by inflation but hugely and primarily impressive even in constant dollars.

Since 1979, annual NIH appropriations have *not* increased when measured in constant dollars. But the constant dollar cost of advancing biomedical research keeps on increasing. One cannot work on interferon or molecular dissection in a shed, or on a shoestring. Will the resources be available to allow us to advance, and without breaking stride? If the pace of federal support declines, will industry and private investment pick up the slack? And if so, on what terms? These are already our current problems, and we do not yet have solutions. Our hope must be that we *can* go forward. That hope, however, rests on a simple recognition: not a miracle nor a happy accident produced our recent progress — billions of dollars of public investment made that progress possible. Our future has a very obvious price tag attached to it.

A second hope I have is that we will be flexible enough to keep adjusting responsibly and effectively to changes of bewildering proportions. The hospital being dedicated this day is rooted in the present but must well serve the future. I am no prophet, but no prophecy is needed to anticipate the shock of the impact of trends already fully visible. Our increased ability to prevent disease will produce shifts in kinds of patients in hospitals. The aging of our national population means that increasing numbers of older people will need greater and different resources for medical care. We will need more nursing home and extended care facilities, as well as improved means for earlier discharge of people back into the home. Changes in treatment may have colossal consequences, ranging

from noninvasive diagnosis through ultrasound imaging, positron emission transmission and nuclear-magnetic-resonance-emission-scanning to the possibility that whole clinics may close as the tuberculosis hospitals closed in the 1950s. Our hope under these circumstances must be that we will neither resist the flow of change nor drown in it, but instead can and will succeed in managing and channeling change within this and other university hospitals.

Yet another hope is that we will make the best possible use of the larger number of physicians that are coming onto the scene. It is anticipated that the number of physicians will *increase* by a *full one-third* within this decade of the 1980s. Will we therefore be able to reduce the scale of some medical schools to more intimate and more personal dimensions, and to achieve more effective staffing in hospitals? Can we avoid the most obvious negative possible outcomes of so great an enlargement in the supply of physician talent?

There is, you see, no dearth of hopes to state, and I have barely touched upon a very few, and but most sketchily. You will each have your own, and can be more expert and specific in their articulation. Let me therefore now shift from hope to purpose, and touch upon two points.

This hospital serves a *public* purpose in service, training and research, but it is also a *private* institution. Its purpose is to *remain* private while continuing to serve the public good. Let us recognize anew that there is harmony rather than dissonance in the marriage of private enterprise with the public interest, and recommit ourselves to this liaison. When committed to *public* service, private enterprise surrenders profit. But it retains the virtues of autonomous and responsive private governance, the efficiency and flexibility of independence in management and operation, and the discipline of competing for resources. When committed to the public benefit of *private* enterprise, government as the representative of public authority surrenders control. But it retains with respect to private

not-for-profit institutions the incentive of providing support for public purposes with public funds, the responsibility for the public order in which the private corporation functions much as the private citizen does, and accountability for the legitimate use of public funds. In the American tradition, it is our genius that *private* enterprise is a function of *public* policy just as much as *public* policy is a function of *private* enterprise. The two are linked in partnership, not opposition. Therefore, they strengthen rather than weaken one another.

These are old and simple truths, but they must always be kept freshly in mind. Too often there appears either the tendency to believe that the *public* interest can best be achieved only by *public* institutions, or the tendency to believe that *private* enterprise can best exist only by resisting or rejecting *public* authority. Both tendencies are wrong. We must continue to prove them wrong. When we reminded ourselves a few minutes ago of the correlation between the recent achievements in biomedical research and the outpouring of public funds for its support, we employed the correlation to establish the price of progress. Let us now go on to reaffirm that much of the national achievement took place in private institutions such as this one; that the partnership between private enterprise in the public interest and public support was once again productive; and restate our purpose that this partnership be continued.

Allow me also to state my conviction that the resources which we in the private sector must have to continue our work at our best will depend first and foremost on the quality of our own resolve to secure these resources. When I expressed the hope that we would receive the funds to move forward in biomedical research I did so *not* because I fear that these funds are unobtainable, but because so many people appear to cherish the myth that perhaps some magic act of grace occurred that was somehow separable from financial support. If the quality of our work and strength of our pur-

pose merit support, we shall not fail for lack of it.

Yes, it will help us to receive increased support from private industry. As the cost of ever more complex instrumentation keeps rising, there are bound to be more and more installations so expensive that they will be one — or at most a very few — of a kind, and must therefore be shared between research universities and commercial companies. But as this happens — and as we achieve a richer and more diverse mixture of support — let us not trap ourselves into the false notion that support from government and industry is an either/or proposition. Only the trinity of university, industry *and* government can effectively support the trinity of service, training and research. We must seek to *supplement* public sources of support, not wholly to replace them, and we will surely face both familiar and new problems as we embark on our inevitable closer ties to commercial enterprise.

The final point I seek to make is that this hospital is above all a human institution that serves acute human needs in human terms. What could be more simple and obvious — and yet how hard we need to strive to make it so. The science and technology we are creating in such abundance has merit only in the service of human life. Medicine is the craft of healing, not an abstract art. We must not let the beauty of science or the genius of technology seduce us from our simple calling: to lessen human suffering and relieve human pain. We must not be tempted to abuse our calling by using medical science and technology either to glorify ourselves in its application or to intimidate and frighten the recipients of care. When the cure is inhumanely worse than the disease, when we forget that the healers are important only in relation to those healed — we have failed. I wish there were a way for every one of us involved in any way with medicine and medical institutions — even as a mere ad-

ministrator — to be conscious every instant that our *highest* purpose is to celebrate and raise the dignity of human life and to enhance its quality. And I wish we could each see more clearly that life and death are part of one another, and that it is *not* primarily death but the *avoidable* diminution of the human body and the human spirit against which we strive. Therapy without compassion is a contradiction in terms. Medical science and technology are designed and — yes — physicians practice, to serve patients, not the other way around.

Ladies and gentlemen, I have every confidence that Duke North will long flourish in the clinical service of humanity, as a center of compassionate medical training, as the site of research of the highest order, and as a bulwark of independent institutions dedicated to the public interest. Thank you for allowing me to share these thoughts and for the genuine delight of being part of this joyous moment.

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This drug is not indicated for initial therapy of edema or hypertension. Edema or hypertension requires therapy directed to the individual. If this combination represents the dosage so determined, its use may be more convenient in patient management. Treatment of hypertension and edema is not static, but must be reevaluated in conditions in each patient warrant.

Contraindications: Further use in anuria, progressive renal hepatic dysfunction, hyperkalemia. Pre-existing elevated serum potassium. Hypersensitivity to either component or other sulfonamide-derived drugs.

Warnings: Do not use potassium supplements, dietary or otherwise, unless hypokalemia develops or dietary intake of potassium is markedly impaired. If supplementary potassium is needed, potassium tablets should not be used. Hypokalemia can occur, and has been associated with cardiac irregularities. It is more likely in the severely ill, with urine output less than one liter/day, the elderly and diabetics with suspected or confirmed renal insufficiency. Periodically, serum K⁺ levels should be determined. If hyperkalemia develops, substitute a thiazide alone, restrict K⁺ intake. Associated widened QRS complex or arrhythmia requires prompt additional therapy. Thiazides cross the placental barrier and appear in cord blood. Use in pregnancy requires weighing anticipated benefits against possible hazards, including fetal or neonatal jaundice, thrombocytopenia, and other adverse reactions seen in adults. Thiazides appear and

triamterene may appear in breast milk. If their use is essential, the patient should stop nursing. Adequate information on use in children is not available. Sensitivity reactions may occur in patients with or without a history of allergy or bronchial asthma. Possible exacerbation or activation of systemic lupus erythematosus has been reported with thiazide diuretics.

Precautions: Do periodic serum electrolyte determinations (particularly important in patients vomiting excessively or receiving parenteral fluids). Periodic BUN and serum creatinine determinations should be made, especially in the elderly, diabetics or those with suspected or confirmed renal insufficiency. Watch for signs of impending coma in severe liver disease. If spironolactone is used concomitantly, determine serum K⁺ frequently, both can cause K⁺ retention and elevated serum K⁺. Two deaths have been reported with such concomitant therapy (in one, recommended dosage was exceeded, in the other, serum electrolytes were not properly monitored). Observe regularly for possible blood dyscrasias, liver damage, other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving triamterene, and leukopenia, thrombocytopenia, agranulocytosis and aplastic anemia have been reported with thiazides. Triamterene is a weak folic acid antagonist. Do periodic blood studies in cirrhotics with splenomegaly. Antihypertensive effects may be enhanced in post-sympathectomy patients. Use cautiously in surgical patients. The following may occur: transient elevated BUN or creatinine or both, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), hyperuricemia and gout, digitalis intoxication (in hypokalemia), decreasing alkali reserve with possible metabolic acidosis. 'Dyazide' interferes with fluorescent measurement of quinidine. Hypokalemia is uncommon with 'Dyazide', but should it develop, corrective measures should be taken such as potassium supplementation or increased

dietary intake of potassium-rich foods. Corrective measures should be instituted cautiously and serum potassium levels determined. Discontinue corrective measures and 'Dyazide' should laboratory values reveal elevated serum potassium. Chloride deficit may occur as well as dilutional hyponatremia. Serum PBI levels may decrease without signs of thyroid disturbance. Calcium excretion is decreased by thiazides. 'Dyazide' should be withdrawn before conducting tests for parathyroid function.

Diuretics reduce renal clearance of lithium and increase the risk of lithium toxicity.

Adverse Reactions. Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis, rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting, diarrhea, constipation, other gastrointestinal disturbances. Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and, rarely, allergic pneumonitis have occurred with thiazides alone. Triamterene has been found in renal stones in association with other usual calculus components. Rare incidents of acute interstitial nephritis and of impotence have been reported with the use of 'Dyazide', although a causal relationship has not been established.

Supplied: Bottles of 1000 capsules; Single Unit Packages (unit-dose) of 100 (intended for institutional use only); in Patient-Pak™ unit-of-use bottles of 100.

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What will you do today that's more important?

**Abused children are helpless.
Unless you help.**

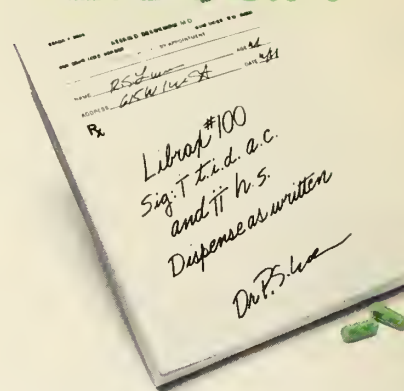


Write: National Committee for
Prevention of Child Abuse,
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Specify Librax®



Each capsule contains 5 mg chlordiazepoxide HCl and 2.5 mg clidinium Br.

Please consult complete prescribing information, a summary of which follows:

Indications: Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the indications as follows "Possibly" effective as adjunctive therapy in the treatment of peptic ulcer and in the treatment of the irritable bowel syndrome (irritable colon, spastic colon, mucous colitis) and acute enterocolitis. Final classification of the less-than-effective indications requires further investigation.

Contraindications: Glaucoma, prostatic hypertrophy, benign bladder neck obstruction, hypersensitivity to chlordiazepoxide HCl and/or clidinium bromide.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants, and against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Physical and psychological dependence rarely reported on recommended doses, but use caution in administering Librium® (chlordiazepoxide HCl/Roche) to known addiction-prone individuals or those who might increase dosage, withdrawal symptoms (including convulsions) reported following discontinuation of the drug.

Usage in Pregnancy: Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy. Advise patients to discuss therapy if they intend to or do become pregnant.

As with all anticholinergics, inhibition of lactation may occur.

Precautions: In elderly and debilitated, limit dosage to smallest effective amount to preclude ataxia, oversedation, confusion (no more than 2 capsules/day initially, increase gradually as needed and tolerated). Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider pharmacology of agents, particularly potentiating drugs such as MAO inhibitors, phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions reported in psychiatric patients. Employ usual precautions in treating anxiety states with evidence of impending depression, suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation reported very rarely in patients receiving the drug and oral anticoagulants, causal relationship not established.

Adverse Reactions: No side effects or manifestations not seen with either compound alone reported with Librax. When chlordiazepoxide HCl is used alone, drowsiness, ataxia, confusion may occur, especially in elderly and debilitated, avoidable in most cases by proper dosage adjustment, but also occasionally observed at lower dosage ranges. Syncope reported in a few instances. Also encountered isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent, generally controlled with dosage reduction, changes in EEG patterns may appear during and after treatment, blood dyscrasias (including agranulocytosis), jaundice, hepatic dysfunction reported occasionally with chlordiazepoxide HCl, making periodic blood counts and liver function tests advisable during protracted therapy. Adverse effects reported with Librax typical of anticholinergic agents, i.e., dryness of mouth, blurring of vision, urinary hesitancy, constipation. Constipation has occurred most often when Librax therapy is combined with other spasmolytics and/or low residue diets.



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Studies reveal an increased frequency of 3-cycles-per-minute slow wave basic electrical activity in the colons of patients with IBS—a significant difference in basic colonic rhythm patterns from normal subjects.^{1,2} These findings suggest a physiological basis for the spasm and hypermotility characteristic of IBS. The role of severe anxiety in triggering or aggravating such symptoms has long been recognized. Consequently, treatment should focus on both aspects of the problem.

Librax: A logical choice for patients with IBS

Logical, because the antimotility-antispasmodic actions of the Quarzan® (clidinium bromide/Roche) component of Librax can help to relieve the distressing abdominal symptoms associated with IBS.* Logical, because the antianxiety actions of the Librium® (chlordiazepoxide HCl/Roche) component can help to reduce the excessive anxiety that can contribute to IBS flare-ups.

References: 1. Sullivan MA, Cohen S, Snape WJ. *N Engl J Med* 298:878-883, Apr 20, 1978.
2. Snape WJ et al. *Gastroenterology* 72: 383-387, Mar 1977.

Specify **Librax**®

Each capsule contains 5 mg chlordiazepoxide HCl and 2.5 mg clidinium Br.

Antianxiety/Antisecretory/Antispasmodic

*Librax has been evaluated as possibly effective for this indication. Please see summary of prescribing information on facing page.



Although weight loss achieved in a weight control program varies from patient to patient, this simulated sequence of a professional medical illustration dramatically illustrates the benefits of a successful weight loss program.



getting there...

...takes dietary restriction, regular exercise,
behavior modification, and sometimes
the addition of an effective anorectic.

prescribe

Tenuate[®] Dospan[®] ^{IV} (diethylpropion hydrochloride USP)

75 mg controlled-release tablets

the #1 prescribed anorectic

An effective short-term adjunct
in an indicated weight loss
program

Overweight patients in certain diagnostic categories
often require strict obesity control. Diethylpropion
hydrochloride has been reported useful in obese
patients with certain complications. While it is not sug-
gested that Tenuate in any way reduces these compli-
cations in the overweight, it may have a useful place
as a short-term adjunct in a prescribed dietary regi-
men. Tenuate should not be administered to patients
with severe hypertension; see additional Precautions
and Adverse Reactions on this page.

in uncomplicated obesity

Many patients, on the other hand, present with excess
fat but no disease. While this condition is often termed
uncomplicated obesity, complications of both a social
and a psychologic nature may be distressingly real for
the patients. In these cases, a short-term regimen of
Tenuate can help reinforce your dietary counsel dur-
ing the important early weeks of an indicated weight
loss program.

Clinical effectiveness

The anorectic effectiveness of diethylpropion hydro-
chloride is well documented. No less than 18 separate
double-blind, placebo-controlled studies attest to its
usefulness in daily practice.¹ And the unique chemistry
of Tenuate provides "... anorectic potency with mini-
mal overt central nervous system or cardiovascular
stimulation."² Compared with the amphetamines,
diethylpropion has minimal potential for abuse.

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And it's responsible medicine.

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References: 1. Citations available on request from Merrell Dow Pharmaceuticals Inc., Cincinnati,
Ohio 45215. 2. Hoekenga M T et al: A comprehensive review of diethylpropion hydrochloride.
In Central Mechanisms of Anorectic Drugs, S Garattini and R Samanin, Ed, New York.
Raven Press, 1978, pp. 391-404.

Tenuate[®] ^{IV}
(diethylpropion hydrochloride USP)

Tenuate Dospan[®] ^{IV}
(diethylpropion hydrochloride USP)
controlled-release

AVAILABLE ONLY ON PRESCRIPTION

Brief Summary

INDICATION: Tenuate and Tenuate Dospan are indicated in the management of exogenous obesity
as a short-term adjunct (a few weeks) in a regimen of weight reduction based on caloric restric-
tion. The limited usefulness of agents of this class should be measured against possible risk fac-
tors inherent in their use such as those described below.

CONTRAINDICATIONS: Advanced arteriosclerosis, hyperthyroidism, known hypersensitivity, or
idiosyncrasy to the sympathomimetic amines, glaucoma. Agitated states. Patients with a history
of drug abuse. During or within 14 days following the administration of monoamine oxidase in-
hibitors, (hypertensive crises may result).

WARNINGS: If tolerance develops, the recommended dose should not be exceeded in an attempt
to increase the effect; rather, the drug should be discontinued. Tenuate may impair the ability of
the patient to engage in potentially hazardous activities such as operating machinery or driving a
motor vehicle; the patient should therefore be cautioned accordingly. When central nervous sys-
tem active agents are used, consideration must always be given to the possibility of adverse in-
teractions with alcohol. **Drug Dependence:** Tenuate has some chemical and pharmacologic
similarities to the amphetamines and other related stimulant drugs that have been extensively
abused. There have been reports of subjects becoming psychologically dependent on diethyl-
propion. The possibility of abuse should be kept in mind when evaluating the desirability of in-
cluding a drug as part of a weight reduction program. Abuse of amphetamines and related drugs
may be associated with varying degrees of psychologic dependence and social dysfunction
which, in the case of certain drugs, may be severe. There are reports of patients who have in-
creased the dosage to many times that recommended. Abrupt cessation following prolonged
high dosage administration results in extreme fatigue and mental depression; changes are also
noted on the sleep EEG. Manifestations of chronic intoxication with anorectic drugs include se-
vere dermatoses, marked insomnia, irritability, hyperactivity, and personality changes. The most
severe manifestation of chronic intoxications is psychosis, often clinically indistinguishable from
schizophrenia. **Use in Pregnancy:** Although rat and human reproductive studies have not indi-
cated adverse effects, the use of Tenuate by women who are pregnant or may become pregnant
requires that the potential benefits be weighed against the potential risks. **Use in Children:**
Tenuate is not recommended for use in children under 12 years of age.

PRECAUTIONS: Caution is to be exercised in prescribing Tenuate for patients with hypertension
or with symptomatic cardiovascular disease, including arrhythmias. Tenuate should not be ad-
ministered to patients with severe hypertension. Insulin requirements in diabetes mellitus may be
altered in association with the use of Tenuate and the concomitant dietary regimen. Tenuate may
decrease the hypotensive effect of guanethidine. The least amount feasible should be prescribed
or dispensed at one time in order to minimize the possibility of overdosage. Reports suggest that
Tenuate may increase convulsions in some epileptics. Therefore, epileptics receiving Tenuate
should be carefully monitored. Titration of dose or discontinuance of Tenuate may be necessary.

ADVERSE REACTIONS: **Cardiovascular:** Palpitation, tachycardia, elevation of blood pressure,
precordial pain, arrhythmia. One published report described T-wave changes in the ECG of a
healthy young male after ingestion of diethylpropion hydrochloride. **Central Nervous System:**
Overstimulation, nervousness, restlessness, dizziness, jitteriness, insomnia, anxiety, euphoria,
depression, dysphoria, tremor, dyskinesia, mydriasis, drowsiness, malaise, headache; rarely
psychotic episodes at recommended doses. In a few epileptics an increase in convulsive epi-
sodes has been reported. **Gastrointestinal:** Dryness of the mouth, unpleasant taste, nausea,
vomiting, abdominal discomfort, diarrhea, constipation, other gastrointestinal disturbances.
Allergic: Urticaria, rash, ecchymosis, erythema. **Endocrine:** Impotence, changes in libido,
gynecomastia, menstrual upset. **Hematopoietic System:** Bone marrow depression, agranulo-
cytosis, leukopenia. **Miscellaneous:** A variety of miscellaneous adverse reactions has been
reported by physicians. These include complaints such as dyspnea, hair loss, muscle pain,
dysuria, increased sweating, and polyuria.

DOSAGE AND ADMINISTRATION: Tenuate (diethylpropion hydrochloride): One 25 mg. tablet
three times daily, one hour before meals, and in mid evening if desired to overcome night hunger.
Tenuate Dospan (diethylpropion hydrochloride) controlled-release: One 75 mg. tablet daily, swal-
lowed whole, in midmorning. Tenuate is not recommended for use in children under 12 years
of age.

OVERDOSSAGE: Manifestations of acute overdosage include restlessness, tremor, hyperreflexia,
rapid respiration, confusion, assaultiveness, hallucinations, panic states. Fatigue and depression
usually follow the central stimulation. Cardiovascular effects include arrhythmias, hypertension
or hypotension and circulatory collapse. Gastrointestinal symptoms include nausea, vomiting,
diarrhea, and abdominal cramps. Overdose of pharmacologically similar compounds has re-
sulted in fatal poisoning, usually terminating in convulsions and coma. Management of acute
Tenuate intoxication is largely symptomatic and includes lavage and sedation with a barbiturate.
Experience with hemodialysis or peritoneal dialysis is inadequate to permit recommendation in
this regard. Intravenous phentolamine (Regitine[®]) has been suggested on pharmacologic
grounds for possible acute, severe hypertension, if this complicates Tenuate overdosage.

Product Information as of June, 1980

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MERRELL-NATIONAL LABORATORIES Inc.
Cayey, Puerto Rico 00633

Direct Medical Inquiries to:



MERRELL DOW PHARMACEUTICALS INC.
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Merrell Dow

Toxic Encounters of the Dangerous Kind

TRICYCLIC ANTIDEPRESSANT OVERDOSE

Several drugs are disproportionately toxic when taken accidentally, even in small amounts, by preschool children, e.g., digoxin, barbiturates, diphenoxylate (Lomotil), propoxyphene (Darvon), and tricyclic antidepressants. Tricyclic antidepressants (TCA) were introduced in this country in the early 1960s and have caused great concern recently because of a remarkable increase in accidental and purposeful overdose. This drug is easy to get; it is considered the drug of choice by many for childhood enuresis as well as for adult depression. Millions of doses of TCA are prescribed yearly and the number is increasing (11.6 million in 1971 to 17 million in 1978).

A TCA overdose must always be considered an emergency, often life threatening. Doses as small as 10 mg/kg should be considered dangerous. For a small child one or two doses of 100-150 mg can be toxic. For example, imipramine (Tofranil) can produce severe symptoms in children if 10 mg/kg is ingested in a single overdose; severe symptoms are inevitable at 20 mg/kg and 40 mg/kg is potentially fatal. The classic triad of TCA overdose consists of coma, convulsions and cardiac arrhythmias. Acutely poisoned patients exhibit an anticholinergic syndrome affecting the peripheral and central nervous system and the heart. Even therapeutic doses have been reported to cause prolongation of the P-R interval and atrio-ventricular block in adults and children. Death usually results from the drug's adverse effects on the heart, which are probably due to blockade of the reuptake of norepinephrine, anticholinergic action and a direct myocardial effect.

Without an accurate history of ingestion, diagnosis can be difficult unless TCA overdose is suggested by the triad.

Unfortunately, TCA blood levels do not correlate well with clinical features, especially cardiotoxicity, but prolongation of the QRS interval greater than 100 msec is almost universal in severe overdose. QRS duration correlates well with a plasma level of 1,000 ng/ml or more and with such severe complications as convulsions, arrhythmias and cardiac arrest. A test dose of physostigmine IV given slowly (adults 1-2 mg, children 0.5 mg) as a therapeutic trial is often helpful in diagnosis.

Therapy of TCA overdose is more controversial now than it was several years ago. Physostigmine, which was once thought to be *the* antidote, is being looked at differently now. The present triad is to use the drug conservatively and reserving it for such life-threatening complications as seizures, coma with respiratory depression and severe hypertension. Dysrhythmias are best treated with NaHCO₃ intravenously to maintain a plasma pH of 7.4-7.5. If this fails, phenytoin or lidocaine may be successful in restoring a normal cardiac rhythm. Cardiac monitoring should be provided until rhythm is regular for at least 24 hours. Dialysis is not effective in this poisoning.

Because of these risks, tricyclics should probably not be used for childhood enuresis except as a last resort, while adults must be warned of the great toxic potential of such compounds.

Ronald B. Mack, M.D.

Associate Prof. of Pediatrics
Bowman Gray School of Medicine
Winston-Salem, N.C., and
Chairman, Committee on Accidents
and Poison Prevention
N.C. Chapter of the American
Academy of Pediatrics

Editorials

REPORT FROM WEST GERMANY

One of the happiest phenomena of the modern world has been the development of exchange programs to encourage citizens of different countries to visit each other. High school and college students have been at this for sometime as have adults to a lesser extent because adults are a bit more set in their ways and are less likely to pursue novelty.

My wife (p 737) and I recently had the opportunity to participate in such an exchange between Peine, West Germany, and Winston-Salem sponsored by the Friendship Force, a private organization, based in Atlanta, which has been quite active in this field in recent years. Another group from Raleigh-Durham went to West Berlin at the same time in a similar program. Three-hundred seventy-six people from both areas, packed in a 380 passenger "flying sardine can," landed at Tegel airport in West Berlin on April 13 for a two-week visit. We were most fortunate to have as our hosts an oral and maxillo-facial surgeon and his wife who lived, not in Peine, but in Braunschweig, a larger, older and more historic city nearby.

For the physician a trip to Germany should have special importance because of her contributions to modern medicine. The names of Rudolf Virchow, Paul Ehrlich, Robert Koch, Domagk, Forssmann, Schick, Billroth, Roentgen — the list is endless — serve to remind us that many of our American medical ancestors went to Germany in times past because that was where the giants were. Two wars have changed the balance but German medicine is good and is improving.

Braunschweig, a city of about 300,000 people and nearly 1,000 years old, serves an area of about 1,000,000 people. Unlike most American cities, it has no real general hospital. One hospital began in 1901 as an orphanage, became an old folks home and now is primarily an orthopedic and trauma unit, without neurosurgeons, for there is not one in the community. There are pediatric and, mysteriously, gastroenterologic units there. At a larger hospital are sections in general surgery, gynecology, internal medicine and radiology. Our host practiced there in a self-contained unit under his direction with some 35 beds, several surgical suites and a large outpatient dental and surgical clinic.

An old Luftwaffe hospital has several medical specialties including nephrology with a hemodialysis unit. The kidney unit has five staff nephrologists who

care for in- and out-patients and provide acute dialysis for the community. Thirty passive care patients were attended in a five-station unit, and 30 more were dialyzing at home. There was no transplant service but facilities were available at the regional medical school in nearby Hanover. The nephrologists were responsible for constructing arteriovenous fistulas for access and proudly reported no synthetic or vein grafts among their patients, one having been on a machine for 11 years. The lack of surgical services at their hospital had turned them into experts in fistula construction. Naturally their waiting list was long and expansion of facilities followed the expected debate about who would pay and how many machines would be needed. But funds were found and the chief of the section is justifiably proud of his partly completed new unit which will have 14 stations.

While nephrology units in North Carolina serve fewer people and have more patients in peritoneal and hemodialysis, hypertensive renal failure is much less common in Germany (with few black inhabitants) and the doors have not been opened wide for patients with diabetic nephropathy. Intermittent (IPD) and continuous ambulatory peritoneal dialysis (CAPD) are beginning to attract some attention but hemodialysis, usually in-center, seems to be the most common approach. The 50:50 division in Braunschweig, about what ours is in Winston-Salem, between home and center is unusual for Germany just as is emphasis on home care in the United States. About one-quarter to one-third of patients with end-stage renal disease in Braunschweig are in that predicament because of analgesic abuse, an experience comparable to that in the South in general and in North Carolina in particular.

Nineteen-hundred and eighty-one is the centennial of the establishment of the German health insurance program, a measure sponsored by Prince Otto Von Bismarck, the great conservative and imperialist chancellor, who more than any other individual was responsible for his country's unification. The system is actually run as a private company whose initials are AOK. Ninety-seven percent of the population is covered by the program through payroll deductions. Unions, business groups, guilds and others may purchase more service through their associations, no pretense being made to offer equal care for all. Of course these supplements often buy more comfort than procedures and less time in waiting rooms. Each

year the company and representatives of hospital, dental and medical groups negotiate fee schedules based on the total expected annual budget. While there is some griping about this, no obstacles are offered by any governmental equivalents to our Federal Trade Commission, and Swedish dentists and physicians are looking for places to practice in Germany.

A fee is established for almost everything so that good office management is essential. Hospitals are rarely private and take considerable income from their ambulatory specialty clinics which are run by individuals or groups. These hospital specialty clinics work on a strict referral system. Patients attending them must, except in emergencies, bring an authorization from the "panel" physician who renders general medical care and who is in fact affiliated with the hospital through the clinic.

If medical coverage runs out, a governmental equivalent of Medicare picks up the tab through Social Security. The 3% who earn too much to qualify for AOK by payroll deduction are responsible for their own care and can purchase insurance. Their fees are not fixed, however, and physicians and hospitals may charge them considerably more than those routinely covered. They don't have to wait, however. A phone call usually means a prompt appointment. A phone call for medical advice from the 97% can be charged through AOK; in 1974 a physician could charge 3 Deutschmarks, now about \$1.50, for such an encounter, 4 DM for an intravenous infection (for the procedure; the drug is charged separately), and 3 DM for a subcutaneous infection. Dressings are charged for by size but doctors resist the temptation to swath their patients like mummies.

Because of AOK, there is not as much difference between incomes of physicians as there is in this country, but they are well paid, often have second homes and drive Mercedes. The mean income is lower, but the range is narrower. Perhaps a hundred-year-old program has achieved acceptability because it has worked well enough to survive that long. There is naturally some dissatisfaction with the system but physicians generally seem satisfied because their representatives give them a powerful role in negotiations.

J.H.F.

MEDICINE, COMPETITION, THE FEDERAL TRADE COMMISSION AND THE POST OFFICE

The Bureau of Competition of the Federal Trade Commission (FTC) has of late been actively engaged in examining the behavior of physicians in general and the American Medical Association in particular, a scrutiny which has led them to declare that the AMA has violated the Federal Trade Commission Act. The FTC's assertion that the AMA operates substantially for the economic benefit of its members has been sustained by a United States court of appeals, a ruling which the AMA is asking the Supreme Court to review. The FTC's case has recently been presented

rather vigorously and interestingly to the medical profession by an attorney in the bureau and deserves our careful attention.¹

The commission must by law be concerned with activities which appear inconsistent with antitrust legislation and it is appropriate that the *New England Journal of Medicine* has opened its Sounding Board for that agency's summary and justification of its current position. Its stand has in recent years seemed to run counter to the position of other governmental bodies which might like a little less competition so that fixed medical fees can be established for budgetary convenience and fiscal planning. Some of their efforts aimed at ensuring competition seem perhaps to be seeking the wrong targets because some sort of regulation of our profession is necessary for the protection of the public and our efforts to maintain medical standards should not be mistaken for monopolistic practices. Of course, policing one's own profession is difficult and can cause unjustifiable pain to those proven innocent but the incompetent physician does far greater harm to an unsuspecting public.

How professional societies and governments can in voluntary concert maintain proper standards of medical practice is a perpetual problem, perhaps even more difficult to solve today because of the dynamic nature of modern medicine and medical technology. Still, expecting the free market to regulate the doctor-patient relationship to the satisfaction of the Federal Trade Commission is perhaps quixotic. Flooding the market with physicians and with medical advertising may well encourage a freer market, but the nature of contemporary medical practice — hospital-based, labor intensive and encouraged through third party coverage — suggests otherwise. Sometimes we physicians feel as if we are being singled out and blamed for matters beyond our control. We alone do not make the medical market but we do have legitimate interests in maintaining standards and keeping costs at a minimum. Without proper standards of professional behavior, freedom becomes license whether in the marketplace or indoors.

But is the free enterprise system really free? Someone always has to pay; the problem is to make the burden bearable and to have it borne equitably, not an easy assignment but Rep. Barry Goldwater, Jr., (R-Calif.) has an idea which may help. He has introduced the Free Enterprise Postage Stamp Act which would allow selling space on postage stamps for advertising. Enacting and implementing such legislation supposedly would cut the deficit of the Postal Service and even take us back to the days of the 3¢ stamp and the penny postcard.

A company would pay \$10,000 for 50,000 stamps to carry its message and 2,000 companies could put together a total issue of 100,000,000 stamps for \$20,000,000. Imagine the combinations of advertisers and of messages possible in a single printing. Imagine the variety of designs possible, the aesthetic range which might be achieved. And passing the act might please the FTC. After all, the post office is a monop-

oly, has a fee schedule, systematically excludes competition and perpetually loses money.

J.H.F.

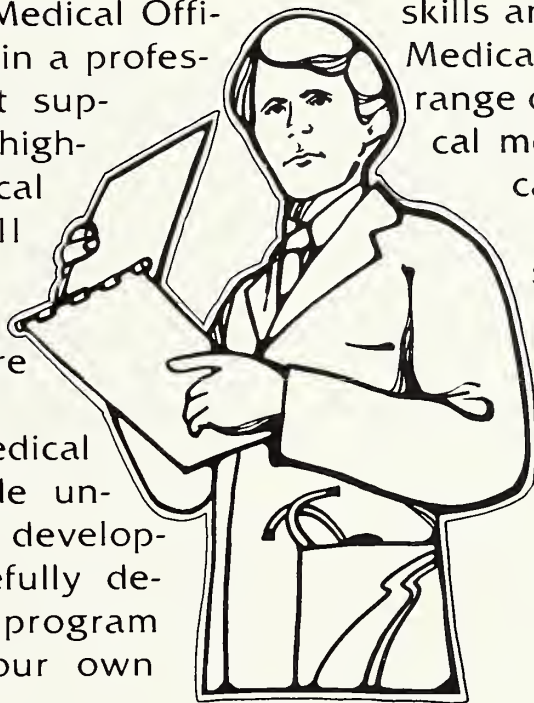
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Assistant Director, AMA
Department of Practice Management

On The Importance of Checking References

Participants at a recent practice management workshop listened with horror to a successful physician relate his tale of having discovered one of his clinical assistants in possession of a forged license.

"She seemed pleasant enough when we interviewed her. And the past employment history she gave us was impressive. I didn't think it necessary to check with her past employers."

It wasn't long before the physician's office manager became suspicious and decided to investigate. He was surprised to find that the assistant's past references were as phony as her license. The assistant was let go without problems but the physician admits now the incident caused him some discomfort.

Chances are a dishonest medical assistant will never find her way into your practice. But if you're like most doctors, *an incompetent or ill-mannered employee in your office may pose just as great a liability.*

Personnel professionals across the country agree: when it comes to staff performance, *the best indicator of future success is past success.* And that holds true for everyone in the practice from the doctor to the file clerk. While there's no guarantee that you'll ever make the "perfect hire," you can greatly enhance the possibility by check. While there's no guarantee that you'll ever make the "perfect hire," you can greatly enhance the possibility by checking out the past performance of all potential employees.

Unfortunately, many physicians don't check references. And many of them get burned as a result.

A family practitioner we spoke to recently said he hired a new assistant on the recommendation of a past employee who had known the woman for years.

"She had just moved from California to our mid-western town and was anxious to find a job. I needed someone in a hurry and trusted the word of my former assistant. I hired the applicant the same day she came in for her interview."

When the new employee reported for work the doctor was dismayed to find that she was a terrible typist and so short tempered that he almost lost several long-standing patients.

"If I had just spent a couple of dollars to call her previous boss in California, I might have saved us both a good deal of expense and grief."

There are several points you'll want to keep in mind when checking job applicant's references. First, "personal references" will be of little value to you. Applicants have carefully chosen these individuals and you're reasonably certain to get nothing but glowing reports. Secondly, you need to have approval from applicants to contact former or current employers. Most commonly, this approval will appear as part of your job application form. If the applicant refuses to give permission, you should ask why. Often, an applicant will tell you their current employer is unaware they are looking for another job. If that is the case, let the potential employee know that any final decision to hire will be contingent upon checking out that final reference. An office manager for a small group of urologists reports that she was ready to hire a new insurance clerk until a final reference check indicated termination due to excessive tardiness and absenteeism. You should also look out for any "gaps" in the past employment history. Your applicant may have spent the past two years at home raising

a family. Or she may have skipped from job to job, lasting only a few months at each.

In checking with previous employers, it is best to use the telephone. These days people are understandably hesitant to put negative reports in writing. And be sure to speak with the employee's past immediate supervisor, not the personnel department. Information from someone who worked side by side with the employee will be of greater value.

In chatting with that previous supervisor, it is important to keep the following thought in mind: *listen to what is not said about the applicant as well as what is said*. It is rare that anyone will say outright the employee was "lazy and ill-mannered." But consider the following conversation:

"How would you describe Mary's ability to interact with you and her co-workers?"

"Well . . . uh . . . well, she . . . she got along pretty well."

Most prospective employers would take this to be a danger sign.

Personnel experts do caution, however, that it's not just the person on the other end of the phone who has to be careful about what he or she says. Just as you may not ask discriminatory questions while interviewing or on your application, don't do it when checking references. Your queries about an applicant's religion, race or family plans may just come back to haunt you. If you are in doubt about the appropriateness of your question, subject it to this test: is the information I'm after *truly* related to the applicant's ability to perform the job?

One question you may ask, and should ask of *all* previous employers is this:

"Mr. Jones, if you could, would you rehire Mary Smith?"

An immediate "yes" speaks well for your applicant. A flat "no" or even a moment of hesitation may clue you into the need to look further for your "perfect hire."

Unfortunately, many past employers you will contact now have strict policies about information given over the phone. Some will only tell you how long the person was employed. Still others will tell you nothing, but will ask that you submit your reference check in writing. You may only receive verification of the information your applicant has already provided. But at least it will be enough to assure you that the applicant is telling the truth about past length of service, job responsibilities and salary level.

One more thought to keep in mind: in a Texas recent court decision, a patient injured by an incompetent orderly successfully sued the hospital for punitive as well as compensatory damages. The hospital had not checked the orderly's references

when they hired him. As a result of the suit, it was later discovered, that he had been expelled from corpsman's school and had a criminal record for drug violations. The court's ruling? "Gross failure in making sure employees are qualified and trained for assigned tasks will subject a hospital to such damages." And it's not stretching the imagination to assume the same would hold true for a doctor's office.

Since employee salaries are one of the largest costs to the practice, isn't it worth your while to spend some time and effort in making the best possible hire?

Past Employer Check List

All references should be checked. It is better to speak to the applicant's immediate supervisor than the personnel department, since the supervisor would know the applicant best. Make sure you have written approval from the applicant to call (write) the former (current) employer.

| Applicant's Name | Position applied for | Date called |
|--|----------------------|-------------|
| Name of past employer | Person talked to | Job title |
| Questions | Comments | |
| 1. When did applicant work for you? | | |
| 2. Would you rehire the applicant? | | |
| 3. Was the applicant able to interact well with you and fellow employees? | | |
| 4. Would you say that the applicant's work was excellent, good, average, poor? | | |
| 5. What were the main duties performed? | | |
| 6. What were the applicant's best attributes? | | |
| 7. Why did the applicant leave? | | |
| 8. What salary was the applicant receiving? | | |

Remember to listen for "what is not said."



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Ru-Tuss Tablets act continuously for 10 to 12 hours.

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Each prolonged action tablet contains:

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| Phenylpropanolamine Hydrochloride | 50 mg |
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| Hyoscyamine Sulfate | 0.19 mg |
| Atropine Sulfate | 0.04 mg |
| Scopolamine Hydrobromide | 0.01 mg |

Ru-Tuss Tablets act continuously for 10 to 12 hours.

Ru-Tuss Tablets are an oral antihistaminic, nasal decongestant and anti-secretory preparation.

INDICATIONS AND USAGE Ru-Tuss Tablets provide relief of the symptoms resulting from irritation of sinus, nasal and upper respiratory tract tissues. Phenylephrine and phenylpropanolamine combine to exert a vasoconstrictive and decongestive action while chlorpheniramine maleate decreases the symptoms of watering eyes, post nasal drip and sneezing which may be associated with an allergic-like response. The belladonna alkaloids, hyoscyamine, atropine and scopolamine further augment the anti-secretory activity of Ru-Tuss Tablets.

CONTRAINDICATIONS Hypersensitivity to antihistamines or sympathomimetics. Ru-Tuss Tablets are contraindicated in children under 12 years of age and in patients with glaucoma, bronchial asthma and women who are pregnant. Concomitant use of MAO inhibitors is contraindicated.

WARNINGS Ru-Tuss Tablets may cause drowsiness. Patients should be warned of the possible additive effects caused by taking antihistamines with alcohol, hypnotics, sedatives or tranquilizers.

PRECAUTIONS Ru-Tuss Tablets contain belladonna alkaloids, and must be administered with care to those patients with glaucoma, or urinary bladder neck obstruction. Caution should be exercised when Ru-Tuss Tablets are given to patients with hypertension, cardiac or peripheral vascular disease or hyperthyroidism. Patients should avoid driving a motor vehicle or operating dangerous machinery (See Warnings).

OVERDOSAGE Since the action of sustained release products may continue for as long as 12 hours, treatment of overdoses directed at reversing the effects of the drug and supporting the patient should be maintained for at least that length of time. Saline cathartics are useful for hastening evacuation of unreleased medication. In children and infants, antihistamine overdosage may produce convulsions and death.

ADVERSE REACTIONS Hypersensitivity reactions such as rash, urticaria, leukopenia, agranulocytosis, and thrombocytopenia may occur. Other adverse reactions to Ru-Tuss Tablets may be drowsiness, lassitude, giddiness, dryness of the mucous membranes, tightness of the chest, thickening of bronchial secretions, urinary frequency and dysuria, palpitation, tachycardia, hypotension/hypertension, faintness, dizziness, tinnitus, headache, incoordination, visual disturbances, mydriasis, xerostomia, blurred vision, anorexia, nausea, vomiting, diarrhea, constipation, epigastric distress, hyperirritability, nervousness, dizziness and insomnia. Large overdoses may cause tachypnea, delirium, fever, stupor, coma and respiratory failure.

DOSAGE AND ADMINISTRATION Adults and children over 12 years of age, one tablet morning and evening. Not recommended for children under 12 years of age. Tablets are to be swallowed whole.

HOW SUPPLIED

Bottles of 100 Tablets

Bottles of 500 Tablets

Federal law prohibits dispensing without prescription.

NDC 0524-0058-01

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COUGH

RU-TUSS[®] EXPECTORANT

DESCRIPTION

Each fluid ounce of Ru-Tuss Expectorant contains:

Codeine Phosphate

(WARNING: MAY BE HABIT FORMING)

Phenylephrine Hydrochloride
Phenylpropanolamine Hydrochloride
Pheniramine Maleate
Pyrilamine Maleate
Ammonium Chloride
Alcohol

Ru-Tuss Expectorant is an oral antitussive, antihistaminic, nasal decongestant and expectorant preparation.

INDICATIONS AND USAGE Ru-Tuss Expectorant is indicated for symptomatic upper respiratory congestion associated with pharyngitis, tracheitis, bronchitis, allergic rhinitis. Also, for the temporary relief of symptoms associated with hay fever, allergies, nasal congestion and cough due to the common cold.

CONTRAINDICATIONS Hypersensitivity to antihistamines. Concomitant use of hypertensive or antidepressant drug containing a monoamine oxidase inhibitor is contraindicated.

Ru-Tuss Expectorant is contraindicated in patients with glaucoma, bronchial asthma and in women who are pregnant.

WARNINGS Ru-Tuss Expectorant contains codeine phosphate, therefore, the patient should be warned of the potential that this drug may be habit forming. Ru-Tuss Expectorant may cause drowsiness. Patients should be warned of the possible additive effects caused by taking antihistamines with alcohol, hypnotics, sedatives and tranquilizers.

PRECAUTIONS Patients taking Ru-Tuss Expectorant should avoid driving a motor vehicle or operating dangerous machinery (See Warnings). Caution should be taken in patients having hypertension, diabetes, hyperthyroidism and cardiovascular disease. Caution should also be used in patients with pulmonary, hepatic or renal insufficiency.

ADVERSE REACTIONS Ru-Tuss Expectorant may cause drowsiness, lassitude, general dryness of mucous membranes, tightness of the chest, thickening of bronchial secretions, urinary frequency and dysuria, palpitation, tachycardia, hypotension/hypertension, faintness, dizziness, tinnitus, headache, incoordination, visual disturbances, mydriasis, xerostomia, blurred vision, anorexia, nausea, vomiting, diarrhea, constipation, epigastric distress, hyperirritability, nervousness and insomnia. Overdoses may cause restlessness, excitation, delirium, tremors, euphoria, metabolic acidosis, tachycardia and even convulsions.

DOSAGE AND ADMINISTRATION Adults: 1 or 2 teaspoonfuls, orally, every 4 hours, not to exceed 10 teaspoonfuls in any 24-hour period.

Children 6 to 12 years of age: ½ the adult dose, not to exceed 6 teaspoonfuls in any 24-hour period. Children 2 to 6 years of age: ½ teaspoonful every 4 hours, not to exceed 3 teaspoonfuls in any 24-hour period. Children under 2 years of age: Use as directed by a physician.

HOW SUPPLIED

Pint bottles (16 fl. oz.)

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WHAT? WHEN? WHERE? In Continuing Education

Please note: 1. The Continuing Medical Education Programs at Bowman Gray, Duke, East Carolina and UNC Schools of Medicine, Dorothea Dix, and Burroughs Wellcome Company are accredited by the American Medical Association. Therefore CME programs sponsored or cosponsored by these schools automatically qualify for AMA Category I credit toward the AMA's Physician Recognition Award, and for North Carolina Medical Society Category A credit. Where AAFP credit has been requested or obtained, this also is indicated.

2. The "place" and "sponsor" are indicated for a program only when these differ from the place and source to write "for information".

October 3-4

"Pediatric-Gynecology and Adolescent Sexuality"

Place: Wrightsville Beach

Fee: \$125

Credit: 12 hours

For Information: William Wood, M.D. 919/933-2118

October 7

"Surgical Update for Primary Care Physicians"

Place: Pitt County Memorial Hospital Auditorium, Greenville

Fee: \$50

Credit: 6 hours, AAFP applied for

For Information: F. M. Simmons Patterson, M.D., Assistant Dean
for Continuing Medical Education, East Carolina University
School of Medicine, Greenville 27384

October 7-8

"21st Annual Charlotte Postgraduate Seminar"

Place: Charlotte Memorial Hospital

Fee: None

Credit: 12 hrs.

For Information: C. Whit Blount, Jr., M.D., Shamrock Family
Practice Clinic, 3616 Michigan Avenue, Charlotte, N.C. 28215,
704-537-6952

October 9

"11th Annual Seminar in Medicine (Hypertension)"

Place: Bowman Gray School of Medicine

Credit: 6 hours

Fee: \$60

For Information: Emery C. Miller, M.D., 300 S. Hawthorne Road,
Bowman Gray School of Medicine, Winston-Salem 27103 919-
748-4450

October 21-22

"Office Treatment of Depression"

Place: Carolina Inn, Chapel Hill

Fee: \$20

For Information: J. Ingram Walker, M.D., Dept. of Psychiatry, 508
Fulton Street, Durham 27705 919-286-4011, Ext. 6651

October 22

"Headache"

Place: Burroughs Wellcome, Research Triangle Park

Credit: 4 hours

Fee: None

For Information: Mrs. Sandy Foster 919-541-9090

October 22-23

"Pediatric Pathology Club"

Place: Duke Univ. Medical Center

Credit: 16 hours

Fee: \$120

For Information: William D. Bradford, M.D., Box 3712, Duke Univ. Med. Ctr., Durham 27710

October 25-26

"Technique of Pacemaker Implantation & New Types"

Place: Bowman Gray School of Medicine

Credit: 9 hours

Fee: \$60

For Information: Emery C. Miller, M.D., 300 South Hawthorne Street, Bowman Gray School of Medicine, Winston-Salem 27104 919-748-4450

October 30-31

"Understanding and Treatment of the Aggressive Adolescent"

Place: Searle Center for Continuing Education, Duke University Medical Center

Credit: 11 hours

Fee: \$175

For Information: J. Ingram Walker, M.D., Duke University Medical Center 919-684-2711, Ext. 303

October 30-31

"14th Annual Malignant Disease Symposium on Abdominal and Extremity Tumors"

Place: UNC School of Medicine

Credit: 11 hours

Fee: \$100

For Information: Mimi Minkoff, Cancer Research Center, Box 30, MacNider Bldg., Chapel Hill 27514

October 31-November 2

"Advanced Cardiac Life Support Instructors Course"

Place: Bowman Gray School of Medicine

Credit: 22 hours

Fee: \$300

For Information: Emery C. Miller, M.D., 919-748-4450

November 6

"Alumni Scientific Sessions"

Place: Bowman Gray School of Medicine

Credit: 6 hours

Fee: None

For Information: Emery C. Miller, M.D. 919-748-4450

November 11

"Childhood Behavioral Problems"

Place: Pitt County Memorial Hospital Auditorium, Greenville, N.C.

Fee: \$25

Credit: 3 hours, AAFP applied for

For Information: F. M. Simmons Patterson, M.D., Assistant Dean for Continuing Medical Education, East Carolina University School of Medicine, Greenville, N.C. 27834

November 20-23

"Multiple Sclerosis for Practicing Physicians"

Place: Duke University Medical School

Credit: 9 hours

Fee: \$10

For Information: Allen D. Roses, M.D. 919-683-6274

December 9

"Infections in Obstetrics and Gynecology"

Place: Pitt County Memorial Hospital Auditorium, Greenville, N.C.

Fee: \$50

Credit: 7 hours, AAFP applied for

For Information: F. M. Simmons Patterson, M.D., Assistant Dean for Continuing Medical Education, East Carolina University School of Medicine, Greenville, N.C. 27834

IN CONTIGUOUS STATES

October 30-31

"Allergy and Immunology for the Clinician"

Place: Hyatt-Hilton Head Island, S.C.

Credit: 14 hours

For Information: A. J. Kimber, American Academy of Allergy, 611 East Wells Street, Milwaukee, WI 53202 414/272-6071

The items listed in the above column are for the six months immediately following the month of publication. Requests for listing should be received by "WHAT? WHEN? WHERE?", P.O. Box 27167, Raleigh 27611, by the 10th of the month prior to the month in which they are to appear. A "Request for Listing" form is available on request.

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April, my husband and I, along with 374 other North Carolinians, did just that by participating in a foreign exchange program called the Friendship Force. At the same time 300 West Germans flew to North Carolina to visit in Tarheel homes.

The Friendship Force was founded by a Protestant minister in Atlanta who felt that world peace could best be fostered by people-to-people exchange. Because it should be a full cultural experience, not just travel, the country to be visited was not announced until after all applicants, chosen from many walks of life, had been interviewed and accepted. Each "ambassador" agreed to visit any country chosen, but cheers were heard when it was announced at a February meeting that our group was going to West Germany. Participants from Raleigh, Durham and Chapel Hill would go to West Berlin and the Winston-Salem group to Peine, a small city in lower Saxony.

Our happy expectations in visiting Germany were not unfounded. When our chartered plane landed in Berlin on April 13, the Berliners greeted us with bouquets of flowers and big "Welcome" signs. The 100 Winston-Salemites who were bused to Peine found similar warm welcomes there from our German families.

Jack and I were the guests of a delightful medical couple, Evelyn and Dietrich Kahre, who live in the 1,000-year-old city of Braunschweig. Dietrich is an oral, maxillo-facial and plastic surgeon in solo practice. Like his counterparts in this country, he rises early, sometimes comes home late and often works holidays and weekends. Evelyn is a homemaker and part time x-ray supervisor for her husband. Many medical wives in Germany help in their husbands' offices but there is no German medical auxiliary.

We were of similar ages and even had children of the same age — their 23-year-old son is an artist studying in Canada. Some aspects of their lives were quite different from ours but some were so similar we could have been staying in Winston-Salem, West Germany.

During our visit our hostess took us on day trips to Berlin, Hamburg, Hanover, the Lüneburg Heath and the Harz mountain. There is no speed limit on the Autobahn and as Evelyn zipped from city to city at speeds of 100 miles per hour or more, we sometimes cringed. We saw many Germans employing "leg-power," riding bicycles, not only in villages but also on bicycle paths built along roads linking towns. An extensive public transportation system runs so efficiently and precisely on time that people set their watches by trains' arrivals.

Because Germany is densely populated, land use is different. Houses, for instance, are built close together and almost abut street with yards mostly in the back. Apartment dwellers without yards but with ubiquitous sidewalks satisfy their "gardening urge" by planting window boxes at home or renting government owned garden plots on the outskirts of town. Since no farmland is wasted on old dumps or tumbled down farm buildings or left to weeds, the countryside is immaculate.

CYCLAPEN®-W (cyclacillin)

Indications

Cyclacillin has less *in vitro* activity than other drugs in the ampicillin class and its use should be confined to these indications: Treatment of the following infections:

RESPIRATORY TRACT

Tonsillitis and pharyngitis caused by Group A beta-hemolytic streptococci
Bronchitis and pneumonia caused by *S. pneumoniae* (formerly *D. pneumoniae*)
Otitis media caused by *S. pneumoniae* (formerly *D. pneumoniae*) and *H. influenzae*
Acute exacerbation of chronic bronchitis caused by *H. influenzae**

*Though clinical improvement has been shown, bacteriologic cures cannot be expected in all patients with chronic respiratory disease due to *H. influenzae*

SKIN AND SKIN STRUCTURES (integumentary) infections caused by Group A beta-hemolytic streptococci and staphylococci, non-penicillinase producers

URINARY TRACT INFECTIONS caused by *E. coli* and *P. mirabilis*. (This drug should not be used in any *E. coli* and *P. mirabilis* infections other than urinary tract)

NOTE: Perform cultures and susceptibility tests initially and during treatment to monitor effectiveness of therapy and susceptibility of bacteria. Therapy may be instituted prior to results of sensitivity testing

Contraindications Contraindicated in individuals with history of an allergic reaction to penicillins

Warnings Cyclacillin should only be prescribed for the indications listed herein.

Cyclacillin has less *in vitro* activity than other drugs of the ampicillin class. However, clinical trials demonstrated it is efficacious for recommended indications.

Serious and occasional fatal hypersensitivity (anaphylactoid) reactions have been reported in patients on penicillin. Although anaphylaxis is more frequent following parenteral use, it has occurred in patients on oral penicillins. These reactions are more apt to occur in individuals with history of sensitivity to multiple allergens. There are reports of patients with history of penicillin hypersensitivity reactions who experienced severe hypersensitivity reactions when treated with a cephalosporin. Before penicillin therapy, carefully inquire about previous hypersensitivity reactions to penicillins, cephalosporins and other allergens. If allergic reaction occurs, discontinue drug and initiate appropriate therapy. Serious anaphylactoid reactions require immediate emergency treatment with epinephrine. Oxygen, I.V. steroids, airway management, including intubation, should also be administered as indicated.

Precautions Prolonged use of antibiotics may promote overgrowth of nonsusceptible organisms. If superinfection occurs, take appropriate measures.

PREGNANCY: Pregnancy Category B. Reproduction studies performed in mice and rats at doses up to 10 times the human dose revealed no evidence of impaired fertility or harm to the fetus due to cyclacillin. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, use this drug during pregnancy only if clearly needed.

NURSING MOTHERS: It is not known whether this drug is excreted in human milk. Because many drugs are, exercise caution when cyclacillin is given to a nursing woman.

Adverse Reactions Oral cyclacillin is generally well tolerated. As with other penicillins, untoward sensitivity reactions are likely, particularly in those who previously demonstrated penicillin hypersensitivity or with history of allergy, asthma, hay fever, or urticaria. Adverse reactions reported with cyclacillin: diarrhea (in approximately 1 out of 20 patients treated), nausea and vomiting (in approximately 1 in 50), and skin rash (in approximately 1 in 60). Isolated instances of headache, dizziness, abdominal pain, vaginitis, and urticaria have been reported. (See WARNINGS) Other less frequent adverse reactions which may occur and are reported with other penicillins are anemia, thrombocytopenia, thrombocytopenic purpura, leukopenia, neutropenia and eosinophilia. These reactions are usually reversible on discontinuation of therapy.

As with other semisynthetic penicillins, SGOT elevations have been reported.

As with antibiotic therapy generally, continue treatment at least 48 to 72 hours after patient becomes asymptomatic or until bacterial eradication is evidenced. In Group A beta-hemolytic streptococcal infections, at least 10 days' treatment is recommended to guard against risk of rheumatic fever or glomerulonephritis. In chronic urinary tract infection, frequent bacteriologic and clinical appraisal is necessary during therapy and possibly for several months after. Persistent infection may require treatment for several weeks.

Cyclacillin is not indicated in children under 2 months of age.

Patients with Renal Failure Cyclacillin may be safely administered to patients with reduced renal function. Due to prolonged serum half-life, patients with various degrees of renal impairment may require change in dosage level (see DOSAGE AND ADMINISTRATION in package insert).

Dosage (Give in equally spaced doses)

| INFECTION | ADULTS | CHILDREN* |
|-----------------------------|--------------------------|--|
| Respiratory Tract | | |
| Tonsillitis & Pharyngitis | 250 mg q.i.d. | body weight < 20 kg (44 lbs) 125 mg q.i.d. body weight > 20 kg (44 lbs) 250 mg q.i.d. |
| Bronchitis and Pneumonia | | |
| Mild or Moderate Infections | 250 mg q.i.d. | 50 mg/kg/day q.i.d. |
| Chronic Infections | 500 mg q.i.d. | 100 mg/kg/day q.i.d. |
| Otitis Media | 250 mg to 500 mg q.i.d.† | 50 to 100 mg/kg/day† |
| Skin & Skin Structures | 250 mg to 500 mg q.i.d.† | 50 to 100 mg/kg/day† |
| Urinary Tract | 500 mg q.i.d. | 100 mg/kg/day |

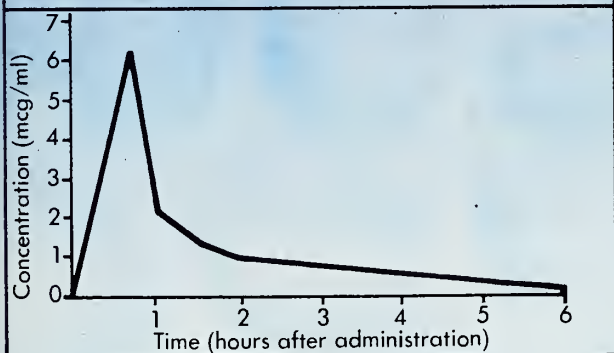
*Dosage should not result in a dose higher than that for adults.

†depending on severity

Half the dose
is absorbed in 9 minutes!
compared to 32 minutes for ampicillin.*



Mean blood levels in mcg/ml after 250 mg cyclacillin single oral dose



- Rapid, virtually complete absorption from GI tract
- Exceptionally high peak blood levels – 3 times greater than ampicillin (Clinical efficacy may not always correlate with blood levels.)
- Rapidly excreted unchanged in urine – 1½ times faster than ampicillin

*Based on $T^{1/2}$ values for single oral doses of 500 mg cyclacillin tablet and 500 mg ampicillin capsule. Data on file, Wyeth Laboratories.

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Fewer episodes of diarrhea and rash than with ampicillin in studies to date.

Efficacy proven in the treatment of bronchitis, pneumonia, and upper respiratory infections.[†]

In 117 patients, 73 with bronchitis/pneumonia caused by *S. pneumoniae* and 44 with streptococcal sore throat caused by Group A beta-hemolytic streptococcus, CYCLAPEN®-W achieved a clinical response rate of 100%! Bacterial eradication was 95% and 86% respectively.

[†]Due to susceptible organisms.

See important information on facing page.

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The homes inside and out are as meticulously tidy as the fields. The Kahres' large contemporary home fits this description; inside we found myriads of plants adding cheerfulness and large, screenless windows for sunlight and for enjoying the well kept backyard. Our hosts, as well as their friends, led us on complete house tours that included closets, bathrooms and furnace rooms (I shudder to think of showing my furnace room to drop-in guests).

We visited a 150-year-old thatched roofed farmhouse near the Lüneburg Heath. In early times such houses were built in three parts: living quarters for the family at one end, a stable for the farm animals at the other and the kitchen in the middle. This arrangement not only allowed the farmer and his stock to avoid winter cold, but also let animal heat help warm the rest of the house. When built, this house had no chimney, smoke simply escaping through cracks and crevices. Blackened beams in the stable (as yet unrestored) attested to many a smoky fire below.

The Kahre kitchen had every modern convenience and we delighted in typical German breakfasts of crunchy rolls, cheese and sausage (with eggs added in our honor). Lower Saxony is asparagus country and the large, luscious spears steamed or in soup were a treat. Salads and raw fruits are seldom served. The reason became obvious at the supermarket; lettuce

costs \$2.50 a head and a "special" proudly announced cucumbers at \$1.00 apiece. One evening we had braised hare, available to German housewives as is other game because licensed hunters work the government forests and bring their prey to market.

We attended a wedding party in Berlin that was so similar to parties in Winston-Salem that, had it not been for the language difference, we might have thought we were at home. Dress, hair styles, food and music were the same as in any North Carolina gathering. One delightful surprise was the German custom of presenting each lady with a bouquet of roses.

German Easter celebrations are quite similar to ours with church services, chocolate eggs and Easter rabbits. It differs in that stores, churches and homes are festooned with fresh flowering boughs and hung with painted wooden eggs while "Easter Fires," relics of a pagan past, blazed along river banks on Easter Eve.

The similarities we found most welcome, however, were not material likenesses or holiday customs but rather the attitudes and ideas of the German people. Our long conversations that sometimes lasted past midnight taught us that their hopes and dreams, family ties, ideas and values were very much like ours.

Although I don't know what countries Friendship Forces will visit in the future, I believe that the individual understanding and insight gained from these

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| Phenylephrine Hydrochloride | 30 mg. |
| Potassium Guaiacolsulfonate | 500 mg. |

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visits can be a real factor in fostering international peace. We encourage all who read this article to seek an opportunity to share yourselves with another family. If you cannot physically leave North Carolina, you can participate by offering yourself as a host family — by giving you will also receive.

Mrs. John H. (Kitty) Felts
Winston-Salem, N.C.

News Notes from the—

EAST CAROLINA UNIVERSITY SCHOOL OF MEDICINE

Thirty-four new physicians are participating in the postgraduate training program at the ECU School of Medicine and Pitt County Memorial Hospital.

The program now includes 89 residents who are specializing in family medicine, pediatrics, medicine, surgery, psychiatry, obstetrics and gynecology.

The new group of residents represents 17 medical schools in eight states. Nearly half the physicians are specializing in family medicine.

* * *

Dr. Evelyn McNeill, associate professor of anatomy, has received a \$3,000 grant from the N.C. United Way to examine "A Biochemical and Morphological Study of the Pineal-Islet Axis in Normal and Alloxan Diabetic Rats." McNeill's study, conducted in collaboration with Dr. John Bray, associate professor of surgery, focuses on the relationship between zinc and diabetes.

* * *

Dr. David H. Hollander, professor of pathology and laboratory medicine, recently attended the International Symposium on Trichomoniasis at the Medical Academy in Bialystok, Poland. Hollander presented "The Pathology of Human *Trichomonas Vaginalis* Vaginitis" at the symposium.

* * *

Dr. James G. Jones, professor and chairman of the Department of Family Medicine, is the author of "Arthritis" appearing in the July issue of *The Female Patient*.

* * *

Dr. David R. Garriss, assistant professor of anatomy, has been awarded \$23,000 from the Rockefeller Foundation to examine "Ovarian Regulation of Uterine Parameters Involved in Blastocyst-Implantation in the Guinea Pig," a study designed to prevent early birth defects and develop better contraceptives.

Garriss also recently led a seminar at the University

of Idaho. The seminar was entitled "Uterine Blood Flow and Pregnancy Maintenance in the Guinea Pig."

* * *

Dr. Donald R. Hoffman, associate professor of pathology and laboratory medicine, is the principal author of two articles that appeared in the June issue of *Annals of Allergy*. The articles are "Allergens in Hymenoptera Venom VI. Cross Reactivity of Human IgE Antibodies to the Three Vespid Venoms and Between Vespid and Paper Wasp Venoms" and "Isolation of Spore Specific Allergens from *Alternaria*."

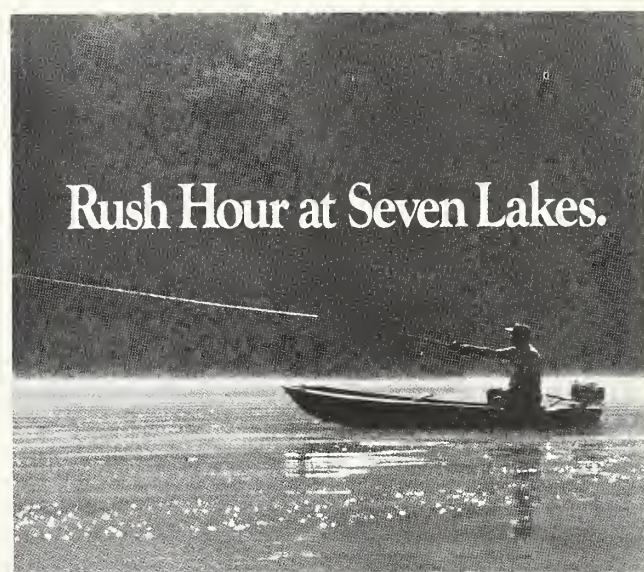
* * *

Drs. Jarlath M. MacKenna and Charles A. Hodson, assistant professors of obstetrics and gynecology, and Dr. Robert G. Brame, professor and chairman of the Department of Obstetrics and Gynecology, are the authors of "Checking Out the Fetal Lungs." The article appeared in a June issue of *Emergency Medicine*.

* * *

Dr. John P. DaVanzo, professor of pharmacology, has been named to the editorial board of *Neurotoxicology*.

The journal publishes interdisciplinary research on the effects of toxic substances on the nervous system.



The rush of a fisherman to his favorite fishing spot. Or the late afternoon wind rushing through the slender pines. The occasional hurry of a golfer to the first tee to meet his foursome. And the dash to the backcourt to return an offensive lob in a friendly game of tennis. That's as close as you'll come to a rush hour at Seven Lakes. Seven Lakes, located 8 miles west of Pinehurst, is resort living at its best in the peaceful wooded Sandhills of North Carolina. A totally planned

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DaVanzo has considerable experience organizing academic and industrial research groups.

He currently heads a team of medical investigators who are working to develop a drug to reduce high blood pressure. The project is funded by a private pharmaceutical company.

DaVanzo also is vice chairman of the N.C. Board of Science and Technology, a group of scientists responsible for identifying research needs in the state's public and private agencies.

* * *

Dr. Robert S. Fulghum, associate professor of microbiology, is the principal author of "Indigenous Nasopharyngeal, Auditory Canal, and Middle Ear Bacterial Flora of Gerbils: Animal Model for Otitis Media." The article appeared in the June issue of *Infection and Immunity*.

* * *

Dr. Paul D. Mozley, professor of obstetrics and gynecology, recently spent several weeks as a visiting professor for the Indian Health Service at the Talahina Indian Hospital in Oklahoma. Mozley presented two seminars entitled "Post-partum Emotional Disturbances" and "Update: Recent Developments in the Practice of OB/GYN."

News Notes from the

UNIVERSITY OF NORTH CAROLINA- CHAPEL HILL SCHOOL OF MEDICINE AND NORTH CAROLINA MEMORIAL HOSPITAL

Two Chinese scientists who are leaders in the effort to develop a safe and reliable birth control pill for men conducted laboratory tests in the Department of Anatomy at UNC-CH to find out how the most promising substance studied so far inhibits sperm production.

They are Dr. S. P. Xue, professor and chairman of cell biology at the Institute of Basic Medical Sciences in Beijing, and his colleague, Dr. Jingbo Chang. For the past 10 years they have been studying the contraceptive properties of gossypol, a chemical compound found in cotton plants.

Gossypol appears to work by interfering with an enzyme involved in manufacturing sperm. But scientists still aren't sure how this occurs or exactly where the critical reaction between gossypol and the enzyme takes place.

That is why Drs. Xue and Chang asked to visit Chapel Hill during their two-month tour of American medical research centers.

They are trying to pinpoint the site of action of

gossypol by using a technique for tracing chemicals in the body — even inside individual cells — that was developed in the Anatomy Department laboratories of Drs. Walter Stumpf and Madhabananda Sar. The technique, called dry autoradiography, involves the examination of thin, freeze-dried sections of tissue to map the distribution within cells of radioactively tagged chemicals.

According to Sar, only a handful of research labs in the world are equipped for this type of sophisticated, sub-cellular mapwork.

* * *

Dr. Frank T. Stritter has been named director of the Office of Research and Development for Education in the Health Professions in the School of Medicine. The name of the office recently was changed from the Office of Medical Studies.

Stritter, who holds a joint appointment in the schools of medicine, education and public health, was appointed to the university faculty in 1971 as an assistant professor. He was promoted to associate professor in 1975.

A native of Cazenovia, N.Y., Stritter graduated in 1959 from St. Lawrence University in Canton, N.Y. He earned a master's degree in psychology in 1961 from Colgate University and Ph.D. in education in 1968 from Syracuse University.

Active in several professional organizations, Stritter was national chairman of the Association of American Medical Colleges Group on Medical Education in 1979-80.

In 1979, he was named acting director of the Office of Medical Studies in the School of Medicine here. The office was established in 1970. Its staff members are involved in teaching, educational research and various service functions in regard to curriculum and instructional design, student and program evaluation and student development.

* * *

Dr. Christopher C. Fordham III, chancellor of the University of North Carolina at Chapel Hill, has been named the 1981 recipient of the N.C. Hospital Association Distinguished Service Award.

Fordham, a physician and former dean of the UNC-CH School of Medicine, was cited for his "valuable contribution over a period of many years to the hospitals of North Carolina. . . ."

He was also recognized for "his qualities of friendship and leadership and his deep concern for the well-being of his fellow men."

Fordham has been a member of the N.C. Memorial Hospital Board of Directors for eight years and has worked closely with the Area Health Education program to develop teaching projects with community hospitals in North Carolina. He has also worked on a national level with the Committee on Public Hospitals and the Council of Teaching Hospitals.

A NCHA spokesman said the service award is not necessarily offered on an annual basis and that it is

given by the NCHA board of trustees to individuals whose achievements have had a beneficial influence on hospital service in North Carolina.

* * *

Dr. William McLendon, chairman of hospital laboratories at North Carolina Memorial Hospital, was installed as president of the national Academy of Clinical Laboratory Physicians and Scientists at the organization's recent annual meeting in the Research Triangle Park.

McLendon, a professor of pathology in the School of Medicine, will serve a one-year term as president of the 600-member ACLPS.

Dr. Laurence McCarthy, associate professor of bacteriology and pathology and director of the hospital's Clinical Microbiology Laboratories, serves on the academy's executive council.

* * *

The appointments of 11 new faculty members in the School of Medicine have been announced by Chancellor Christopher C. Fordham III.

They are: Dr. Barry C. Corke, associate professor of anesthesiology and obstetrics and gynecology; Dr. Frank A. Dibianca, associate professor of radiology;

and Dr. Dor D. Mickey, associate professor of surgery.

Also Drs. Edwin E. Bowe and Clyde M. Hunt, Jr., assistant professors of anesthesiology; and Drs. Jeffrey L. Hill and Park W. Willis, assistant professors of medicine.

Also Dr. Thomas A. Cable, assistant professor of family medicine; Dr. Godfrey Gaisie, assistant professor of radiology; Dr. Desmond Runyan, assistant professor of social and administrative medicine and pediatrics; and Marie Storaasli, assistant professor of medical allied health professions.

The appointments of Corke, Bowe and Hunt were effective May 15. Dibianca's appointment was effective June 15, and the others were effective July 1.

* * *

Two faculty members were promoted in the School of Medicine effective July 1. Richard W. Shermer, pathology, was promoted to associate professor. Robert S. Tomsick, dermatology, was promoted to assistant professor.

* * *

Dr. Stephen Chaney, assistant professor of biochemistry and nutrition, has been granted a Kenan



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leave of absence for the period of July 1-Dec. 31. Chaney will be looking at the mechanisms of protein synthesis inhibitors. The inhibitors are known to fight leukemia and other cancers in laboratory tests, but little is known about what other effects they may have in humans.

Chaney will be doing part of his research at the University of California at Davis.

* * *

Health and science writers from 14 newspapers and broadcast stations in the state attended a symposium on "Some Medical Issues for the '80s" hosted by the School of Medicine and North Carolina Memorial Hospital June 10 and 11 at the Quail Roost Conference Center.

The journalists were officially welcomed to the symposium by Dr. Stuart Bondurant, dean of the School of Medicine. Dr. Kenneth Brinkhous, Alumni Distinguished Professor of Pathology, gave the keynote address.

Other speakers and their topics were: Dr. Geoffrey Haughton, professor of bacteriology and immunology, "Immunotherapy of Cancer: Unwarranted Faith and Realistic Hopes;" Dr. Paul Beck, professor of medicine and director of the program on aging, "Health Care for the Aging Population;" Dr. Marshall Edgell, professor of bacteriology and immunology, "Implications and Potential of Genetic Engineering;" Eric Munson, executive director of N.C. Memorial

Hospital, "Realistic Expectations of the Health Care System;" Dr. Richard Johnson, professor of neurology and biomedical engineering and director of the biomedical microelectronics program, "Medical Applications of Microelectronics."

* * *

Dr. John A. Ewing, professor of psychiatry and director of the Center for Alcohol Studies, is author of the book "Drinking to Your Health," published by Reston Publishing Company.

* * *

John J. Aluise, lecturer, family medicine, conducted conferences and workshops for faculty and residents at the University of Arkansas, Little Rock, Ark.

* * *

Dr. Arthur J. Prange Jr., professor of psychiatry, was an invited speaker at an international conference titled "Typical and Atypical Antidepressants Symposium" March 24-27 in Taormina, Italy. On March 31 he conducted seminars in psychiatry and pharmacology at the University of Catania.

* * *

Dr. David E. Eifrig, chairman and professor of ophthalmology, gave six lectures and two panel discussions on eye care for general and family practition-

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ers at the Mediclinics Meeting in Fort Lauderdale, Fla.

Eifrig also delivered the second annual Pierre Gautier Jenkins lecture on "Anterior Segment Vitrectomy" to the Charleston Ophthalmologic Society and was made an honorary member of the society. He also lectured at the Wilson Memorial Hospital symposium April 1 in Wilson.

* * *

Dr. Myron S. Cohen, assistant professor of medicine and a member of the Cancer Research Center was guest speaker at the 80th annual banquet of the Yale-China Association April 4 in New Haven, Conn. He also participated in a symposium on Chinese medicine April 8 at the American College of Physicians national meeting in Kansas City, Mo.

He presented a paper titled "A Defect in Oxidative Metabolism of Human Neutrophils During Hemodialysis" at the American Federation of Clinical Research meeting April 27 in San Francisco.

* * *

Dr. Jeffry J. Andresen, associate professor of psychiatry, was a visiting professor of psychiatry April 26-May 1 at the Medical University of South Carolina in Charleston.

* * *

Dr. Colin D. Hall, associate professor of neurology, and Patricia B. Porter, communicative disorders specialist, participated in a muscular dystrophy workshop May 7 in Roanoke, Va.

* * *

Donald Cassata, associate professor of family medicine, presented a lecture at the annual meeting of the International Communications Association titled "Health Communication — the State of the Art" May 21-25 in Minneapolis. He also made a presentation on the family titled "Psychological Systems Review" May 7-8 in Louisville, Ky.

* * *

John Aluise and Stephen Bogdewic, family medicine, conducted a workshop at the 14th annual spring conference of the Society of Teachers of Family Medicine titled "Administrative Leadership Skills for Family Medicine Educators." Also attending the conference May 9-13 in San Diego, was Dr. John Frey, associate professor of family medicine.

News Notes from the—

BOWMAN GRAY SCHOOL OF MEDICINE WAKE FOREST UNIVERSITY

A cancer researcher at the Bowman Gray School of Medicine has uncovered an apparent irony in nature in

which a portion of the immune system which seems to provide some protection against cancer begins to lose its effectiveness when it is needed the most.

Dr. B. Anne Weeks, assistant professor of microbiology and immunology, has found that natural killer cells lose much of their effectiveness during the aging process of research animals. She also has found that the cells' effectiveness begins dropping as a cancer progresses and spreads to other parts of the body through metastasis.

Natural killer cells recently were found to be a part of the animal and human immune systems and to be capable in animals of detecting and destroying a variety of tumor cells.

The cells are found in the blood and spleen.

According to Dr. Weeks, the influence of aging on the cells' activity opens research possibilities for those who want to better understand why the incidence of cancer rises as people get older.

Dr. Weeks' research has been done with a type of guinea pig which has an immune system similar to that of humans.

She now has a \$38,449 contract from the National Cancer Institute to produce a particularly severe form of cancer called melanoma in a colony of guinea pigs. And she has a grant from the Forsyth Cancer Service to conduct further research on natural killer cells using the guinea pigs which develop melanoma.

A principal aim of her work will be to determine whether she can increase natural killer cell activity in the guinea pig. To do that, she will use substances known to boost the body's immune system, including BCG.

To produce melanoma in the guinea pigs, Dr. Weeks uses a chemical which has known cancer-causing properties.

One result of her work so far has been to show that the chemical does not produce tumors in young guinea pigs. Middle-aged guinea pigs develop a pre-cancerous condition when given a single injection of the chemical into the skin. But 50% of the aged guinea pigs develop melanoma when given the chemical.

* * *

The only corral in North Carolina made especially for monkeys has been built at Bowman Gray's research farm.

The corral is home for 16 patas and African Green monkeys, two closely-related species. The monkeys are being used in research on how environment affects health.

Dr. Jay R. Kaplan, assistant professor of comparative medicine, is using the monkeys to study the effects of stress and crowding on atherosclerosis.

For the study, Kaplan chose monkeys which are six months old. The young monkeys were then divided into two different groups, with each group assigned to live in a different environment.

One group lives in a building in crowded, urban-like conditions. The monkeys are threatened periodically, which puts them under stress.

The other group lives outdoors in the new corral, where they are free to move in a large, open space.

Both groups are given the same diets, high in cholesterol and saturated fats.

During the three-year study, Kaplan and his technicians are monitoring blood pressure, blood lipids and heart rate. Behavior also is observed and recorded.

According to preliminary findings, Kaplan said that the monkeys in the low stress environment of the corral have lower heart rates and lower cholesterol levels.

* * *

A vice president at North Carolina Baptist Hospital, Bowman Gray's principal teaching hospital, has won first place honors in a nationwide contest for programs aimed at controlling hospital costs.

Gerald N. Hewitt, vice president for patient financial services, has won the Cost Effectiveness Award from the Hospital Financial Management Association.

His winning entry described a process begun in 1977 which resulted in a major reduction in the number of unpaid bills owed to the hospital.

Bad debts owed the hospital in 1977 amounted to 7.5% of the hospital's total billings. Because of Hewitt's program, and improvements in the bill col-

lection process which resulted, bad debts have dropped to 5.5% of total billings.

* * *

Dr. J. Maxwell Little, a faculty member at Bowman Gray for the past 40 years, recently was named professor emeritus of pharmacology.

His service to the medical school has included 10 years as chairman of the Department of Pharmacology and three years as assistant dean.


He was director of the school's pharmacology section until 1963, when the Department of Pharmacology was established. He served as chairman of the department until 1973, and also as assistant dean from 1957 to 1960.

His contributions to biomedical graduate education, medical education and scientific research have been important to the development of the institution and the enhancement of the scientific basis for rational drug therapy.

Little was the fifth member of the Bowman Gray faculty to be advanced to emeritus status during the past year. The five have served a combined total of 172 years on the faculty.

* * *

Dr. Elias (Lee) Theros, an educator of radiologists



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who now serves on the Bowman Gray faculty, is the focus of a cover story in one of the nation's radiology magazines.

The magazine, "Applied Radiology," includes a broad range of articles of interest to radiologists and is widely distributed. Theros' picture appeared on the cover of the magazine's late-summer issue along with a drawing of the Armed Forces Institute of Pathology, where Theros once served as chairman of the Department of Radiologic Pathology and chief of its radio-pathology division.

The article on Theros highlights, among other things, the large portion of his life which has been dedicated to the arts. He is an accomplished musician, studied at the Royal Conservatories of Music in Milan and Rome before World War II and was beginning a career as a concert baritone just as the war began.

It was only following the Korean War that Theros entered medical school.

The magazine article chronicles his medical contributions to both the military and civilian worlds, including service as medical officer aboard submarines.

Prior to coming to Bowman Gray, where he is the I. Meschan Distinguished Professor of Radiology, Theros was professor and vice chairman of the Department of Radiological Sciences and director of radiologic education at the University of California, Los Angeles, Medical Center.

* * *

Dr. Cornelius F. Strittmatter, professor of biochemistry, has completed a 30 minute public service videotape intended to inform the general public about the beneficial uses of radioisotopes in the improvement of human health.

The tape is entitled "Radioisotopes in Health and Disease." Most of it was filmed at the Bowman Gray/Baptist Hospital Medical Center.

The videotape is the pilot program of a projected public service TV series. It was produced by the TV project committee of the Central North Carolina Section of the American Chemical Society. Financial support was supplied by the American Chemical Society and several local industries. Strittmatter, who wrote and narrated the tape, is chairman of the TV project committee.

* * *

Dr. Walter J. Bo, professor of anatomy, has been elected to a four-year term as a councillor of the Society for Experimental Biology and Medicine.

* * *

Dr. M. Robert Cooper, professor of medicine (hematology/oncology), has been selected to serve on the United States Pharmacopeial Convention Inc., (USP) Advisory Panel on Hematologic and Neoplastic Disease. The panel provides input into publications of the USP Drug Information Division and provides advice to the USP Committee of Revision for the de-

velopment of the official standards of strength, quality, purity, packaging and labeling.

* * *

Dr. Michael Tytell, assistant professor of anatomy, was awarded a Step Toward Independence Fellowship for summer research by the Marine Biological Laboratory, Woods Hole, Mass. His research on "Glial Proteins Transferred into the Giant Axon of the Squid" was done at Woods Hole.

News Notes from the—

DUKE UNIVERSITY MEDICAL CENTER

Dr. Irwin Fridovich, a Duke professor of biochemistry, has been selected president-elect of the American Society of Biological Chemists. Fridovich, who is a James B. Duke Professor of Biochemistry, will serve as president of the professional organization in 1982.

Fridovich did his graduate study at Duke and began work as an instructor at Duke in 1956. His research specialty is enzymology.

Duke is the only university to have three of its professors serve as president of the society. Dr. Philip Handler, a Duke professor on leave who recently served as president of the National Academy of Sciences, was the society's president in 1962. The chairman of Duke University's Department of Biochemistry, Dr. Robert L. Hill, was its president in 1976.

* * *

James P. Cooney Jr., past associate director of the U.S. Department of Health and Human Services' office of health research, statistics and technology, has been appointed chairman of Duke's Department of Health Administration.

The appointment was announced by Dr. Harvey E. Estes Jr., director of Duke's Division of Health Services Education and chairman of the Department of Community and Family Medicine. "Cooney brings to Duke a thorough background of research, teaching and administration in a variety of organizations and settings," Estes said. Cooney served an administrative residency at Letterman General Hospital in San Francisco, Calif., and was named director of the program in health administration at the University of California at Los Angeles in 1969-71. He received his bachelor's degree in 1955 and his master's degree in hospital administration in 1957, both from the University of Iowa. In 1968, he received a doctorate degree in health service administration from the University of Minnesota.

* * *

Chronic pain, nonresponsive depressions, and anorexia nervosa will be among a wide variety of

disorders treated in a special new 19-bed unit at Duke University Medical Center which opened in mid-August.

The Clinical Specialty Unit is planned to help psychiatrists deal with the "explosion in knowledge" in the treatment and diagnosis of mental disturbances.

The unit will combine psychological and biological evaluation with treatment of selected combined psychiatric and medical programs. Low back pain coupled with depression would be typical of the type of problem they will treat, for instance.

* * *

Duke University's associate provost and dean of

medical and allied health education, Dr. Ewald W. Busse, has been elected the incoming president of the International Association of Gerontology.

Busse, an internationally known gerontologist, was elected president at the association's annual meeting in Hamburg, West Germany, July 13. He will serve as president during 1982, the year declared by the United Nations to be "devoted to the aging of the world."

Author of more than 175 scientific papers, Busse has also written and co-written several texts on aging. He served on the 1981 White House Conference on Aging and last year received the Salmon Medal for his significant contributions to the knowledge of mental illness.

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Index to Advertisers

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| Boots Pharmaceuticals, Inc. | 731, 732, 733, 734 | National Medical Enterprises | 736 |
| Burroughs Wellcome Company | 704 | Ortega Pharmaceutical Company | 740 |
| Charlotte Chest Laboratory | 735 | Provident Mutual Insurance Co. | 737 |
| Charlotte Treatment Center | 750 | Ramada Inn | 690 |
| Children's Home Society of N.C. | 744 | Roche Laboratories | Cover 2, 687, 688, 720, 721, Cover 3, Cover 4 |
| Crompton, J. L. & J. Slade, Inc. | 693 | Seven Lakes | 741 |
| Fenwick Hall | 743 | Smith, Kline & French | 719 |
| Golden-Brabham Insurance Agency | 694 | Willingway, Inc. | 746 |
| Graphic Cardiology | 691 | Winchester Surgical Supply Co. | |
| Lilly, Eli & Company | 701 | Winchester-Ritch Surgical Co. | 689 |
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The Official Journal of the NORTH CAROLINA MEDICAL SOCIETY □ □ □ November 1981, Vol. 42, No. 11

Original Articles

- Hypersomnia in Manic-Depressive Illness: A Case of Sleep Apnea ...** 781
Dan Blazer, M.D.
- Sleep Disorders. Part I: Normal Sleep and the Diagnosis of Sleep Dysfunctions ...** 783
J. Ingram Walker, M.D.
- Experience with the Inflatable Penile Prosthesis in the Treatment of Organic Impotence ...** 786
R. Dale Ensor, M.D.

Special Article

- Apples of Discord ...** 789
Sir Douglas Black, M.D.

Mini-Feature

- Toxic Encounters of the Dangerous Kind—Methaqualone Intoxication ...** 796
Ronald B. Mack, M.D.

Editorials

- Haunted Sleep ...** 801
- Down Home—Infectious Disease ..** 802
- “Cloning Committees” ...** 802

Bulletin Board

- New Members of the State Society** 803
- What? When? Where? ...** 804
- Auxiliary to the North Carolina Medical Society ...** 807
- News Notes from the Duke University Medical Center ...** 808
- News Notes from the Bowman Gray School of Medicine of Wake Forest University ...** 816
- News Notes from the University of North Carolina-Chapel Hill School of Medicine and North Carolina Memorial Hospital** 819
- News Notes from the East Carolina University School of Medicine ..** 823
- Classified Ads ...** 829
- Index to Advertisers ...** 830

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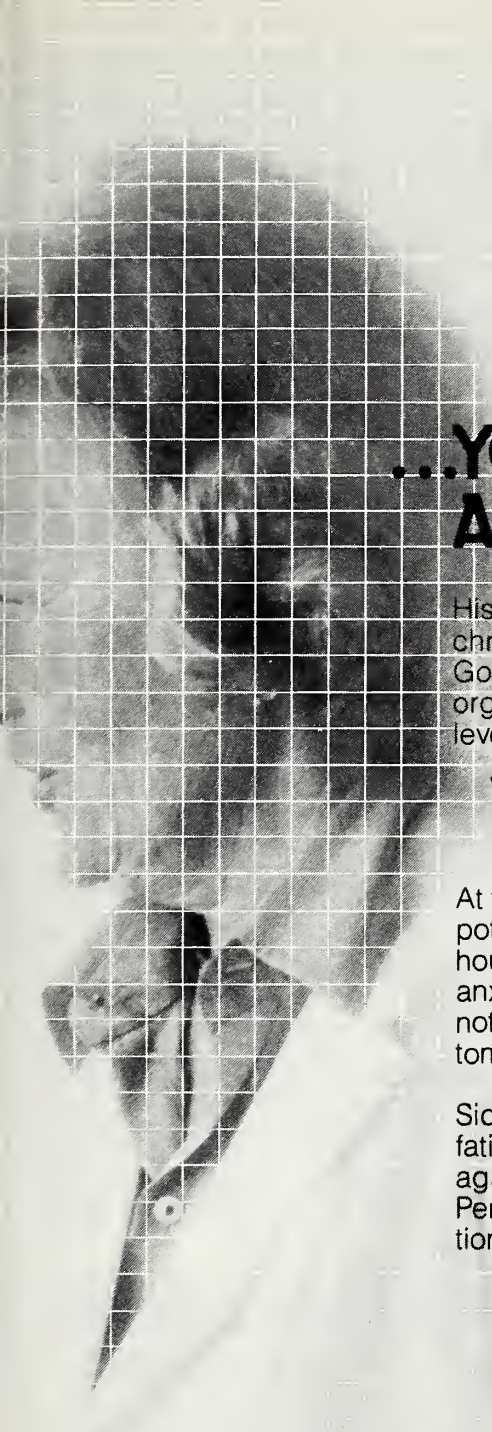
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Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication, abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms similar to those with barbiturates and alcohol have been observed with abrupt discontinuation, usually limited to extended use and excessive doses. Infrequently, milder withdrawal symptoms have been reported following abrupt discontinuation of benzodiazepines after continuous use, generally at higher therapeutic levels, for at least several months. After extended therapy, gradually taper dosage. Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence.

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Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed, drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation. The clearance of Valium and certain other benzodiazepines can be delayed in association with Tagamet (cimetidine) administration. The clinical significance of this is unclear.

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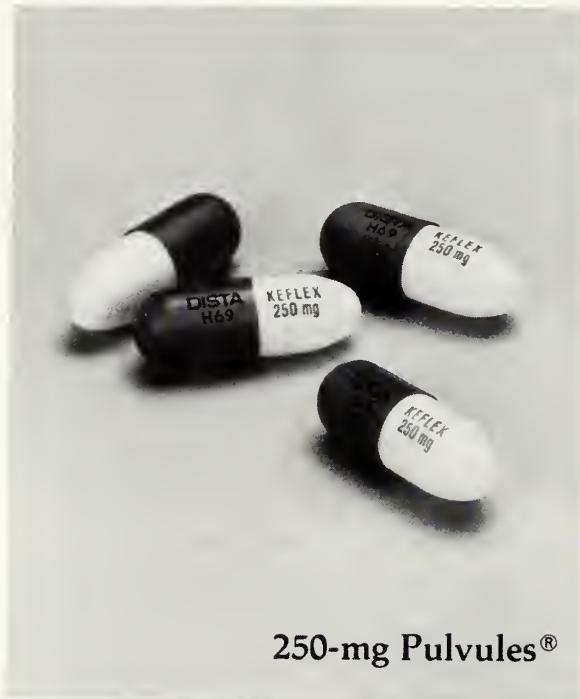
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*PATIENT CARE Magazine—Outlook 1977, "Face-Off: Cost Containment vs. Chaos," January 1, 1977

Lyle CB, et al. "Practice habits in a group of eight internists," ANNALS OF INTERNAL MEDICINE 84 (May 1976), 594-601.

Schroeder SA, et al. "Use of laboratory tests and pharmaceuticals: variation among physicians and effect of cost audit on subsequent use," JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION 225 (Aug. 20, 1973), 969-73.



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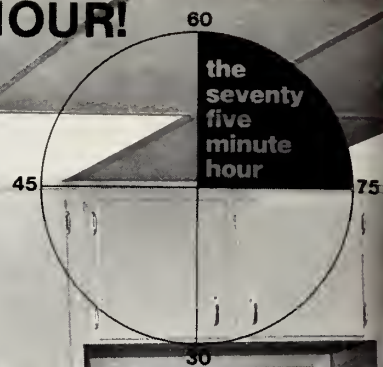
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COUGH

COUGH

COUGH

For Sneezing and Nasal Congestion



RU-TUSS[®] TABLETS

Each prolonged action tablet contains:

| | |
|---|---------|
| Phenylephrine Hydrochloride | 25 mg |
| Phenylpropanolamine Hydrochloride | 50 mg |
| Chlorpheniramine Maleate | 8 mg |
| Hyoscyamine Sulfate | 0.19 mg |
| Atropine Sulfate | 0.04 mg |
| Scopolamine Hydrobromide | 0.01 mg |


Ru-Tuss Tablets act continuously for 10 to 12 hours.

- Vasoconstrictor, antihistaminic actions
- Rapid and prolonged relief of nasal and sinus congestion
- Convenient b.i.d. dosage



Boots Pharmaceuticals
Pioneers in Medicine

For Coughing With Nasal and Bronchial Congestion



RU-TUSS EXPECTORANT

Each fluid ounce of Ru-Tuss Expectorant contains:

| | |
|-----------------------------------|---------|
| Codeine Phosphate | 65.8 mg |
| (WARNING: MAY BE HABIT FORMING) | |
| Phenylephrine Hydrochloride | 30 mg |
| Phenylpropanolamine Hydrochloride | 20 mg |
| Pheniramine Maleate | 20 mg |
| Pyrilamine Maleate | 20 mg |
| Ammonium Chloride | 200 mg |
| Alcohol | 5% |

- Vasoconstrictor, antihistaminic, expectorant actions with codeine
- Rapid relief of upper respiratory congestion and cough
- Good tasting

Report, Louisiana 71106.

e Family

SNEEZE

RU-TUSS[®] TABLETS

DESCRIPTION

Each prolonged action tablet contains:

| | |
|-----------------------------------|---------|
| Phenylephrine Hydrochloride | 25 mg |
| Phenylpropanolamine Hydrochloride | 50 mg |
| Chlorpheniramine Maleate | 8 mg |
| Hyoscyamine Sulfate | 0.19 mg |
| Atropine Sulfate | 0.04 mg |
| Scopolamine Hydrobromide | 0.01 mg |

Ru-Tuss Tablets act continuously for 10 to 12 hours

Ru-Tuss Tablets are an oral antihistaminic, nasal decongestant and anti-secretory preparation.

INDICATIONS AND USAGE Ru-Tuss Tablets provide relief of the symptoms resulting from irritation of sinus, nasal and upper respiratory tract tissues. Phenylephrine and phenylpropanolamine combine to exert a vasoconstrictive and decongestive action while chlorpheniramine maleate decreases the symptoms of watering eyes, post nasal drip and sneezing which may be associated with an allergic-like response. The belladonna alkaloids, hyoscyamine, atropine and scopolamine further augment the anti-secretory activity of Ru-Tuss Tablets.

CONTRAINDICATIONS Hypersensitivity to antihistamines or sympathomimetics. Ru-Tuss Tablets are contraindicated in children under 12 years of age and in patients with glaucoma, bronchial asthma and women who are pregnant. Concomitant use of MAO inhibitors is contraindicated.

WARNINGS Ru-Tuss Tablets may cause drowsiness. Patients should be warned of the possible additive effects caused by taking antihistamines with alcohol, hypnotics, sedatives or tranquilizers.

PRECAUTIONS Ru-Tuss Tablets contain belladonna alkaloids, and must be administered with care to those patients with glaucoma, or urinary bladder neck obstruction. Caution should be exercised when Ru-Tuss Tablets are given to patients with hypertension, cardiac or peripheral vascular disease or hyperthyroidism. Patients should avoid driving a motor vehicle or operating dangerous machinery (See Warnings).

OVERDOSAGE Since the action of sustained release products may continue for as long as 12 hours, treatment of overdoses directed at reversing the effects of the drug and supporting the patient should be maintained for at least that length of time. Saline cathartics are useful for hastening evacuation of unreleased medication. In children and infants, antihistamine overdosage may produce convulsions and death.

ADVERSE REACTIONS Hypersensitivity reactions such as rash, urticaria, leukopenia, agranulocytosis, and thrombocytopenia may occur. Other adverse reactions to Ru-Tuss Tablets may be drowsiness, lassitude, giddiness, dryness of the mucous membranes, tightness of the chest, thickening of bronchial secretions, urinary frequency and dysuria, palpitation, tachycardia, hypotension/hypertension, faintness, dizziness, tinnitus, headache, incoordination, visual disturbances, mydriasis, xerostomia, blurred vision, anorexia, nausea, vomiting, diarrhea, constipation, epigastric distress, hyperirritability, nervousness, dizziness and insomnia. Large overdoses may cause tachypnea, delirium, fever, stupor, coma and respiratory failure.

DOSAGE AND ADMINISTRATION Adults and children over 12 years of age, one tablet morning and evening. Not recommended for children under 12 years of age. Tablets are to be swallowed whole.

HOW SUPPLIED:

Bottles of 100 Tablets
Bottles of 500 Tablets

Federal law prohibits dispensing without prescription

NDC 0524-0058-01
NDC 0524-0058-05

COUGH

RU-TUSS[®] EXPECTORANT

DESCRIPTION

Each fluid ounce of Ru-Tuss Expectorant contains:

Codeine Phosphate

(WARNING: MAY BE HABIT FORMING)

| |
|-----------------------------------|
| Phenylephrine Hydrochloride |
| Phenylpropanolamine Hydrochloride |
| Pheniramine Maleate |
| Pyrilamine Maleate |
| Ammonium Chloride |
| Alcohol |

Ru-Tuss Expectorant is an oral antitussive, antihistaminic, nasal decongestant, expectorant preparation.

INDICATIONS AND USAGE Ru-Tuss Expectorant is indicated for symptomatic upper respiratory congestion associated with pharyngitis, tracheitis, bronchitis, allergic rhinitis. Also, for the temporary relief of symptoms associated with the common cold, allergies, nasal congestion and cough due to the common cold.

CONTRAINDICATIONS Hypersensitivity to antihistamines. Concomitant use of hypertensive or antidepressant drug containing a monoamine oxidase inhibitor is contraindicated.

Ru-Tuss Expectorant is contraindicated in patients with glaucoma, bronchitis and in women who are pregnant.

WARNINGS Ru-Tuss Expectorant contains codeine phosphate, therefore, the patient should be warned of the potential that this drug may be habit forming. Ru-Tuss Expectorant may cause drowsiness. Patients should be warned of the possible additive effects caused by taking antihistamines with alcohol, hypnotics, sedatives and tranquilizers.

PRECAUTIONS Patients taking Ru-Tuss Expectorant should avoid driving a motor vehicle or operating dangerous machinery (See Warnings). Caution should be taken in patients having hypertension, diabetes, hyperthyroidism and cardiovascular disease. Caution should also be used in patients with pulmonary, hepatic or renal insufficiency.

ADVERSE REACTIONS Ru-Tuss Expectorant may cause drowsiness, lassitude, giddiness, dryness of mucous membranes, tightness of the chest, thickening of bronchial secretions, urinary frequency and dysuria, palpitation, tachycardia, hypotension/hypertension, faintness, dizziness, tinnitus, headache, incoordination, visual disturbances, mydriasis, xerostomia, blurred vision, anorexia, nausea, vomiting, diarrhea, constipation, epigastric distress, hyperirritability, nervousness and insomnia. Overdosage may cause restlessness, excitation, delirium, tremors, euphoria, metabolic acidosis, tachycardia and even convulsions.

DOSAGE AND ADMINISTRATION Adults: 1 or 2 teaspoonfuls, orally, every 4 hours, not to exceed 10 teaspoonfuls in any 24-hour period.

Children 6 to 12 years of age: ½ the adult dose, not to exceed 6 teaspoonfuls in any 24-hour period. Children 2 to 6 years of age: ½ teaspoonful every 4 hours, not to exceed 3 teaspoonfuls in any 24-hour period. Children under 2 years of age: Use as directed by a physician.

HOW SUPPLIED

Pint bottles (16 fl. oz.)

Federal law prohibits dispensing without prescription

NDC 0524-

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Boots Pharmaceuticals, Inc.
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Pioneers in Medicine For the Family



PRESIDENT'S NEWSLETTER

NORTH CAROLINA MEDICAL SOCIETY

NO. 6

NOVEMBER 1981

Dear Colleague:

Lynn E. Gunn, Staff Director of the North Carolina Mental Health Study Commission, has asked for input from our members concerning Resolution 37, which concerns changes in the involuntary commitment law enacted by the 1979 General Assembly. Many of us have expressed chagrin over the 1979 changes made in the law -- particularly the changes related to the discharge of involuntarily committed people. A copy of the 1981 ratified bill is enclosed with this mailing. Please relay your thoughts (with a copy to me) to:

Lynn E. Gunn, Staff Director
N. C. Mental Health Study Commission
325 N. Salisbury St., Ste. 1104½
Raleigh, North Carolina 27611

The early October 1981 Session of the General Assembly rewrote its Appropriations Act, as it applied to the North Carolina Medicaid Program. Among other things, the "Amend Appropriations Act" instructs the Department of Human Resources, Division of Medical Assistance to develop plans, by May 1, 1982, for prepaid contracts for medical services and medical devices, as well as a statewide fee schedule for physicians, dentists, chiropractors, optometrists, podiatrists and clinics. D.H.R. is instructed to consult with "the providers of such services and their respective professional associations". I have communicated with the officers and various committee chairmen to ask for their written opinions on the Society's response, which must be submitted before December 1, 1981.

The "Amend Appropriations Act" mandates the following changes to the North Carolina Medicaid Program:

- 1) Payments for Hospital Outpatient Services are limited to 80% of allowable costs.
- 2) Payment for visits to practitioners (excluding dentists) and clinics have been limited to a total of 18 visits per recipient per year. EPSDT screenings, prenatal visits and emergency room visits are EXCLUDED from this limitation. (Be aware that in the term "practitioner," the bill includes "one or any combination of the following: physicians, clinics, hospital outpatient, optometrists, chiropractors, and podiatrists.")

ADDENDUM

Limited to 11 visits (encounters) from December 1, 1981, to June 30, 1982

- 3) Payment for mental health center visits are limited to 18 per recipient per year.

ADDENDUM

Limited to 11 visits (encounters) from December 1, 1981, to June 30, 1982

- 4) Prescriptions are limited to 4 prescriptions per recipient per month. Refills are to be counted.
- 5) Medicaid reimbursement rates for physicians, dentists, chiropractors, optometrists, etc., are frozen at the June 30, 1981, payment levels.

The "Amend Appropriations Act" was intended to reduce the costs of the Medicaid Program. However, this may accomplish just the opposite since Medicaid recipients will soon learn to go to the Emergency Room when the annual limit of 18 visits to physicians' offices has been exhausted. D.H.R. has long admitted that the most inexpensive treatment of illness takes place in the physician's office. Conversely, the most expensive site for the same treatment is the Emergency Room. Perhaps the Legislature will need to take another look at this provision!

Congratulations are in order to the North Carolina Chapter of the American Academy of Pediatrics, which will receive the 1981 Wyeth Outstanding Chapter Award -- Large Chapter. Chairman David T. Tayloe will accept the award at the 1981 Annual Meeting of the American Academy of Pediatrics in November. Thus will the North Carolina Chapter be rewarded for its efforts in legislation, education of handicapped children membership recruitment and leadership in the child health field in North Carolina. We are all very proud of you for this well deserved honor!

Sometime ago, in response to the request of Representative Wilma Woodard, "The Committee to Evaluate the Delivery of Health Services in Prisons in North Carolina" was appointed. Chairman Jesse Caldwell called the last meeting, October 25, at Central Prison. After touring that prison, we were all relieved when the big gate opened to let us out. We had a cordial welcome from Warden Sam Garrison, Alfred T. Hamilton, M.D. (Medical Director), and others on the medical staff. Dr. Hamilton conducted our tour of the hospital facility, medical records, laboratory, dental unit and surgical suite. After touring one cell block in the "old" Central, we are all convinced of the necessity of the "new" Central Prison. Jesse now plans to carry us to some of the outlying units, as well as Women's Prison. When a report is generated at the end of two years, I feel sure it will be released to us all. Oh yes -- they finally let us all out to go home!

My best to you and your family,



Josephine E. Newell, M.D.
President



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*Based on review of PDR for Nonprescription Drugs 1981 and Handbook of Nonprescription Drugs, 6th ed 1979



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Adequate dietary fiber is generally considered fundamental to the treatment of constipation, and "bran is one of the most concentrated sources of natural food fiber available."¹ Adequate dietary bran fiber has been shown to increase stool

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BranLax preferred by many patients over Metamucil in a clinical trial*

In a recent clinical evaluation comparing BranLax and Metamucil®, data were compiled on two groups. One was the total study population, and the other was composed of those who use or had previously used Metamucil.

Among the Metamucil users who expressed a preference, 77.8% (14/18)* preferred BranLax overall, effectiveness of BranLax was favored by 83.3% (10/12),* taste was preferred by 72.2% (13/18)† and the convenience of preparing BranLax was favored by 71.4% (10/14)†.



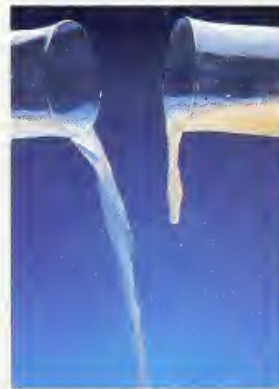
Among the general study population who expressed a preference, 59.6% (31/52)† preferred BranLax overall, effectiveness of BranLax was favored by 57.6% (19/33),† taste was preferred by 58.8% (30/51)† and convenience of preparing BranLax was favored by 62.5% (20/32).†

Ease of preparation encourages compliance

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Many patients prefer the BranLax natural taste of bran and maple walnut. After mixing, BranLax remains a palatable, easy-to-drink beverage, and Metamucil thickens considerably and becomes an unpleasant, gelatinous drink.



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the laxative that tastes as good as it works

Markitt, D.P. and Meisner, P.: How to manage constipation with high-fiber diet, *Geriatrics* 34:33-40, Feb. 1979. * statistically significant at the .05 level. † While this difference is not statistically significant, there was a definite directional superiority in favor of BranLax. © 1981 Bristol-Myers Company

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Extran/DMTM

analgesic, decongestant, antihistamine, cough suppressant

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Capsules/Tablets: Each capsule/tablet contains 500 mg acetaminophen, 30 mg pseudoephedrine HCl, 2 mg chlorpheniramine maleate, 10 mg dextromethorphan HBr.

Liquid: Each fluid ounce (30 ml) contains 1000 mg acetaminophen, 60 mg pseudoephedrine HCl, 4 mg chlorpheniramine maleate, 20 mg dextromethorphan HBr. Contains alcohol 20% by volume.



An ounce of prevention... is worth a pound of cure.

Good advice? You know it is. As a doctor, you've seen what prevention can do for people. Prevention is an important part of staying healthy.

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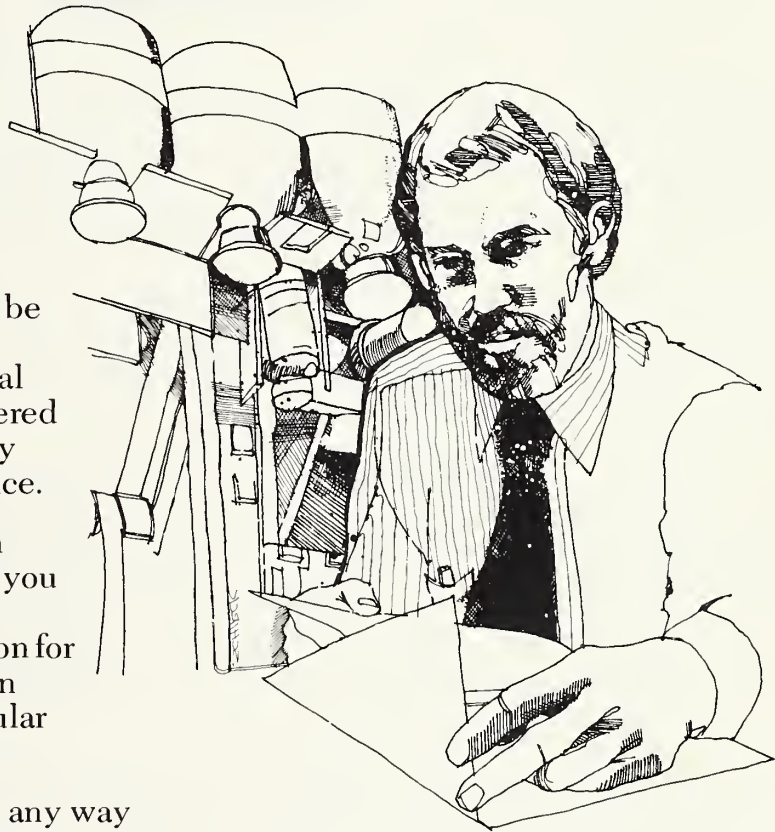
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Towards Wholeness

The October Legislative Session: A Report

During its regular session this year (January–July, 1981) the North Carolina General Assembly was unable to complete the State Budget due to the fact that the Reagan Administration, scissors in hand, would not finish its budget business until October. Thus, a special legislative session was held in October to adjust the State Budget to compensate for the loss of federal revenues.

MEDICAID

The Omnibus Budget Reconciliation Act of 1981 reduced the federal funds available to North Carolina's Medicaid program by 3% for the 1981–82 federal fiscal year, by 4% for the 1982–83 federal fiscal year, and $4\frac{1}{2}\%$ for the 1983–84 federal fiscal year. The net effect shifted an additional 2.0% of the total program cost to the State and counties for the 1981–82 federal fiscal year and 2.7% for the 1982–83 federal fiscal year. Thus, the program's funding had to be reduced to that which the State could purchase with existing appropriations at an increased percentage of total costs. Based on the amounts already appropriated by the General Assembly for the 1981–83 triennium, the following are the necessary reductions in the Medicaid Program:

1981–82 State fiscal year

\$48.5 budgeted per quarter @ 35.4% of total

cost = \$137.0 m)

137.0 for 3 quarters

\$411.0 m

Amount budgeted for 3 quarters

(435.6 m)

Total program reduction

(\$24.6 m)

1982–83 State fiscal year

First Quarter

53.0 @ 34.8% of total cost

\$152.3 m

Second, Third, and Fourth Quarters

(\$53.0 @ 35.5% of total cost = \$149.3 m)

| | |
|-------------------------|------------------|
| \$149.3 for 3 quarters | <u>447.9 m</u> |
| Total | \$600.2 m |
| Amount budgeted | <u>(646.7 m)</u> |
| Total program reduction | (\$46.5 m) |

The supplemental budget passed by the Legislature cut the Medicaid program by approximately \$25 million. The reduced services will be in effect December 1, 1981, through June 30, 1982, with reconsideration by the legislators expected when they meet in June. (There are no limits on Medicaid use in North Carolina under the current program.) The following shows the major changes as set out in the budget bill and their respective cost savings for 1980-81:

| | |
|--|--------------|
| Hospital inpatient services based on per diem rates | \$12,727,000 |
| (Medicaid/Medicare cross-over claims based on Medicare rates) | |
| (After July 1, 1982, hospital inpatient services based on prospective rate reimbursement plan) | |
| Hospital outpatient services rates reduced from 90% to 80% of allowable costs | 810,000 |
| Prescriptions limited to four per month, including refills | 4,896,000 |
| Mental health clinic visits limited to 18 per year | 1,200,000 |
| All provider rates (except institutions) frozen | 2,421,000 |
| Total physician, clinic, and outpatient visits limited to 18 per year | 2,999,000 |
| (Physicians may bill the Medicaid patient for any office visit after the 18) | |
| AFDC eligibility reduced | 692,000 |
| Dental program services reduced | 1,839,000 |

As developed by the Department of Human Resources)

Prior approval required for all services other than routine
r emergency and for routine services performed more than
wo times during a consecutive 12-month period)

moratorium placed on granting certificates of need for the

onstruction of additional skilled nursing and intermediate

are facility beds during the remainder of this biennium

-- *

TOTAL

\$27,584,000

No figures are available for this, which is actually viewed as a long-range measure.
nasmuch as the State pays for 80% of the beds in nursing homes, a cap on the number
f beds available should encourage alternative methods of care (e.g. home- and
ommunity-based care).

WILLIE M.

iting the needs of children in the Willie M. class and noting the State's limita-
ions with regards to immediately providing a full range of services to provide for
hose needs, the General Assembly established a schedule of priorities for allocating
ppropriate funds. The Division of Mental Health, the Division of Youth Services,
esidential Programs, and the Department of Public Education all received some
unding for the purposes of serving children in the Willie M. Class.

The Willie M. case was a suit against the State charging that adequate education and
reatment services had not been provided the plaintiffs. Stemming from the case was
definition of "Willie M." class: under 18, mentally handicapped with accompanying
gressive and assaultive behavior patterns; and the State's decision to take
esponsibility for identifying such children, for providing services, and for
articipating in a review panel to monitor the program.)

ABORTION

o funds in excess of the million dollars appropriated can be expended for the pur-
ose of performing abortions during the 1981-82 fiscal year. In the past, when the
mount appropriated had been spent, funds were transferred from other available

sources in order to continue the services. Predictions now cite April as when the million dollar appropriation will be depleted.

BLOCK GRANTS

For the purposes of reviewing acceptance and use of all federal block grants funds received by the State, a Joint Legislative Committee was established, its members consisting of six Representatives appointed by the Speaker and six Senators appointed by the Lieutenant Governor. Block grants to be received include: Title I of the Housing and Community Development Act; Community Services (Public hearings will be conducted on the use of these funds.); Low Income Energy Assistance; Alcohol, Drug Abuse, and Mental Health; Preventive Health and Health Services; Maternal and Child Health Services.

PERINATAL PROGRAM

In order to free state money for more adequate funding of the Perinatal Program (a state funded program), House Bill 900, which called for additional funds for the program, was amended to appropriate \$600,000 for fiscal 1981-82 for Medicaid coverage for needy pregnant women who have no other children. The Medical Society, along with other groups, was successful in securing passage of the amended bill.

STATE EMPLOYEES' HEALTH PLAN

Blue Cross and Blue Shield will continue to serve as the carrier for the State Employees' Health Insurance Plan. Rates to providers in hospitals were frozen as of September 1, 1981, which will require physicians and hospitals to bill patients for those services not fully covered by the plan.

1982-83

In order to prepare for the loss of 1982-83 federal revenues, the Department of Human Resources, with the assistance of health care providers, will develop plans by May 1, 1982, for: a statewide fee schedule for physicians, dentists, chiropractors, optometrists, podiatrists, and clinics; prepaid contracts for medical services; competitive bidding for payment of laboratory services and medical services; and home- and community-based care. The General Assembly will consider these proposals when it meets in June of 1982.



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Hypersomnia in Manic-Depressive Illness: A Case of Sleep Apnea

Dan Blazer, M.D., Ph.D.

ABSTRACT A patient with a bipolar affective disorder superimposed on a cyclothymic disorder and accompanied by sleep apnea syndrome predominantly obstructive in type is presented. Many of the usual presenting symptoms of this potentially fatal sleep disorder were masked by the patient's cyclothymic symptomatology. Only the history of hypersomnia and the wife's report of the patient's sleep problem suggested the possibility of sleep apnea syndrome. The importance of investigating unusual sleep patterns in hypomanic patients is emphasized.

THOUGH hypersomnia has been described in the depressive phase of bipolar affective disorders and cyclothymic disorders,¹ the predominant change in sleep in manic episodes and hypomania is hypsomnia.² When hypersomnia is a presenting symptom in a hypomanic patient, the clinician must consider a concomitant sleep disorder. The differential diagnosis for hypersomnia includes idiopathic hypersomnia, narcolepsy, myxedema, hypersomnia due to medications and sleep apnea syndrome. Sleep apnea syndrome is the disorder with the potential for the most severe medical consequences, and therefore deserves special attention.

The sleep apneas have received increasing attention in the past decade.³ Two primary types have been reported: central apnea and obstructive apnea, the latter more common.³ The process is usually seen in males between the ages of 30 and 60 who are overweight. Clinical features include excessive daytime sleepiness, nocturnal insomnia, noisy snoring of the obstructive type, intellectual and personality changes, morning headache, systemic hypertension and an increased risk of unexplained nocturnal death (probably secondary to acute pulmonary hypertension). Often the referral complaint comes from the spouse, who has recognized that something is wrong. As demonstrated in this case, however, the symptoms of hypomania may mask many presenting symptoms and delay the diagnosis.

CASE REPORT

The patient, a 46-year-old white married male, was referred for evaluation of a bipolar affective disorder superimposed on a cyclothymic disorder. He had experienced his first episode of depression 13 years earlier and had had three episodes since, two depressive and one manic. During these episodes, he had complained of a severe sleep problem, with frequent awakenings. During the day he had difficulty remaining awake, and often fell asleep during conversations,

which led to termination of his employment. His behavior pattern had been punctuated by occasional "panic spells" characterized by irrational behavior that were relieved by sleep. He was treated with numerous psychotropic medications and, at evaluation, was taking imipramine, 25 mg, trifluoperazine, 5 mg, and chlorpromazine, 50 mg at bedtime, and lithium carbonate, 300 mg three times a day and 600 mg at bedtime.

By history and examination, the patient fulfilled the criteria for a diagnosis of a bipolar disorder and a cyclothymic disorder.⁴ He was hypomanic at the initial interview with an elevated and expansive mood, a state he had been in for about two months. He worked 14 hours a day toward establishing a very successful insurance agency. The reason for the referral, according to him, was his wife's concern over a series of large monetary donations to charitable organizations, a practice he planned to continue. Optimism and an exaggerated sense of well being dominated the interview. The patient stated that he "slept well" but did awaken "a few times" during the night. He slept an average of nine and one-half hours per night. There were no complaints of daytime drowsiness or periods of napping, though he continued to have episodic, though less frequent, panic attacks and occasional morning headaches.

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The patient's wife, a practical nurse, specifically complained about his sleep pattern, which she described as being like "Cheyne-Stokes respirations." On a typical night, he fell asleep almost immediately upon going to bed. Approximately one minute later, he ceased to breathe for 30 to 50 seconds, after which he took a series of deep, labored breaths. The pattern, accompanied by snoring, repeated itself throughout the night. She first noticed this problem six months before the visit but had not discussed the problem with her husband, for she was afraid of his reaction. She frequently remained awake from one to two hours, fearful that he would die in his sleep. When she reported her concern to other physicians, she was told that her husband slept less well because of his affective disorder.

Physical examination revealed a white male who was six feet tall and weighed 240 pounds with a standing blood pressure of 160/100 mm Hg. Cardiovascular examination was within normal limits, as were an EKG and standard blood chemical determinations. A sleep EEG was performed with a strain gauge employed to measure the movement of the chest wall. The patient had 46 apneic episodes during a night of 9½ hours' sleep. Apneic episodes were accompanied by labored attempts to breathe, which suggest an obstructive sleep apnea. No pulmonary function studies were performed, however. These episodes ranged from 15 to 60 seconds in duration and occurred in both rapid

eye movement (REM) and non-rapid eye movement (NREM) sleep. He awakened frequently from apneic episodes, but quickly fell back into Stage 1 sleep. There were occasional periods during the night when he fell into Stage 3 and Stage 4 sleep. Upon arising, he stated he had experienced his usual night's sleep, felt great, and was ready to sell some insurance. His medications were adjusted so that his dosages were decreased, except for lithium carbonate, and he was advised to take the medications during the day except for the imipramine. He was followed by a psychiatrist in his local community, referred to an otolaryngologist, and was doing well two months following the evaluation.

DISCUSSION

The patient was diagnosed as having a bipolar affective disorder superimposed on a cyclothymic disorder and accompanied by a sleep apnea syndrome predominantly obstructive in type. Many of the usual presenting symptoms of this potentially fatal sleep disorder were masked by the patient's hypomanic symptomatology. Increased energy eliminated the usual presenting complaint of excessive daytime sleepiness and an exaggerated sense of well being led him to minimize the disturbed sleep he was experiencing, a symptom that he did complain about during previous depressive episodes. His "panic attacks" were attributed to his affective disorder, but periods of irra-

tional behavior and panic have been described in sleep apnea syndromes as well.³ Only the history of hypersomnia and his wife's report of the patient's sleep problems alerted the clinician to the possibility of sleep apnea.

There was no evidence that the sleep apnea syndrome and the hypomanic episode were related in etiology. The two conditions appeared to be unrelated but the combination led to a unique presentation. When such a symptom pattern is observed, the clinician should consider the possibility of a second disorder. History from a family member can be quite useful in making the second diagnosis.

The management of this patient was conservative, consisting only of continued observations and adjustment in medications. The use of central nervous system depressants in sleep apnea syndrome is definitely contraindicated. Yet the use of low doses of an antipsychotic agent, such as trifluoperazine, to control severe agitation would be acceptable in the management. The antipsychotic agents ordinarily have little effect upon respirations. Imipramine has been used as a medical therapy for sleep apneas of the central type.⁵

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Nitrate of silver is another metallic poison to which albuminuria apparently connected with tubal irritation has been attributed. Under the medical use of this salt, continued for nine months, M. Lionville found the urine to be occasionally albuminous, and after death the kidneys, together with other organs, were found to be partially blackened. The cortical parts of the kidneys, especially the malpighian bodies, were sprinkled with black or blue points, and the epithelium of the tubes was the seat of fatty change. — Dickinson WH. *A Treatise on Albuminuria*. 2nd ed. New York: William Wood & Company, 1881.

Sleep Disorders

Part I: Normal Sleep and the Diagnosis of Sleep Dysfunctions

J. Ingram Walker, M.D.

BETWEEN 12% and 15% of the United States population — approximately 30 million people — have sleep complaints.¹ In surveys of psychiatric patients, 63%-72% of outpatients and 80% of inpatients have complained of poor sleep.² Clearly, sleep disturbance is a major symptom to be considered in the diagnosis of psychiatric and medical disorders. This article will be divided into three parts: Part I will review the characteristics of normal sleep and give an overview of the diagnosis of sleep dysfunctions; Part II will discuss the disorders of excessive daytime sleepiness; and Part III will review the insomnias and parasomnias.

NORMAL SLEEP

The discovery that rapid eye movement of sleeping individuals was associated with dreaming and brain wave changes³ launched a surge of remarkable research⁴⁻¹⁰ which has documented the basic patterns of sleep.

There are two different kinds of sleep: Non-rapid eye movement (NREM), also called the synchronized, or "S-state," and rapid eye

movement (REM) sleep, also known as the desynchronized, or "D-state." Non-REM sleep is further divided into four stages (Table I). Stage one sleep represents a transition between waking and sleeping. Stage two, medium deep sleep, composes approximately 50% of total sleep time. Delta sleep, regarded by some as "deep" sleep, is sub-divided into stages three and four. After passing through stages one and two an individual enters delta sleep (the deepest sleep of the night) about one-half to one hour after the onset of sleep. With continued sleep there is more stage two, or medium deep sleep, and less deep sleep. During periods of restful sleep the heart rate, blood pressure, and respiratory rate diminish and the brain wave pattern slows rhythmically.¹¹

About every 90 minutes throughout the night, non-rapid-eye movement sleep is interrupted by low voltage, desynchronized brain wave patterns; heart rate, blood pressure, oxygen consumption and gross body movements are increased, and dreaming occurs. During this state of high autonomic arousal, the eyes of the sleeping individual dart about rapidly behind closed lids — hence the term rapid eye movement sleep.¹²

An average night's sleep is usually represented by five of these 90-minute sleep cycles. One-fourth of sleep time is spent in REM sleep. Dreams are remembered more clearly when an individual wakes in the middle of REM sleep. Reports of more frequent dreaming result from either interrupted sleep (with more chances to awake during REM

TABLE I
NORMAL SLEEP INTERVALS

| Stages | Description | EEG Pattern | Amount of Sleep Time |
|--------|--|-----------------------------|----------------------|
| 1 | Transition between waking and sleeping | Low voltage, desynchronized | 5% |
| 2 | Medium deep sleep | 13-15 cycle sleep spindles | 50% |
| 3 | Deep sleep | Delta waves | 10% |
| 4 | Delta sleep; first part of night | Delta waves | 15% |
| REM | Dream sleep | Low voltage, desynchronized | 20% |

Adapted from Walker, J. I. *Clinical Psychiatry in Primary Care*. Menlo Park, Calif., Addison-Wesley, 1981.

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The views expressed in this article are those of the author and not necessarily those of the Veterans Administration.

sleep), a conscious effort to remember dreams, or a recent history of sleep deprivation resulting in REM rebound. Reports by an individual of more dreaming is not diagnostic of more REM sleep.¹³

It was initially thought that total deprivation of REM sleep might produce psychosis. This idea has proved to be untrue. REM-deprived individuals do, however, seem to become agitated and impulsive.¹⁴ REM-deprived subjects when allowed to have uninterrupted sleep show greater amounts of REM than normal (called REM rebound).¹⁵

According to Hobson¹⁶ the sleep-wake-dream cycle depends on the balance among three neurochemical-neuroanatomical systems in the central nervous system. Wakefulness is maintained by the ascending reticular formation; normal sleep depends on the relative predominance of the serotonergic system with its nuclei in the pontine raphe complex; the REM state is maintained by the norepinephrine system found in the higher pons.

The three anatomic-chemical systems are interrelated and mutually inhibitory.¹⁷ Monotony, boredom, or barbiturates can decrease activity in the ascending reticular formation-activating system resulting in sleep. Sleep can also be produced by increasing activity in the raphe-serotonergic system. Hartmann and associates¹⁸ have suggested that tryptophan, a serotonin precursor occurring naturally in milk and other foods, can induce sleep. Most hypnotic, sedative, stimulant, antidepressant and antihistamine agents increase central nervous system norepinephrine and cause a decrease in the amount of REM sleep.¹⁶

The average sleep time in young adults is seven hours and 45 minutes, while the minimum sleep requirement appears to be about four to five hours a night.¹⁴ Sleep efficiency, total sleep time, and the amount of REM sleep decrease as people age.¹⁰

Emotional and physical stress, pregnancy, and mild depression appear to increase sleep requirement.¹⁹ Sleep need also seems to be related to personality. Hartman²⁰

reports that individuals who require less than six hours of sleep a day tend to be "non-worriers" who are efficient and satisfied with their lives. Those individuals who are "worriers" (take things seriously, and have many complaints about themselves and the world) require more than nine hours of sleep a day.

DIAGNOSIS

The Association of Sleep Disorders Centers and the Association for the Psychophysiological Study of Sleep²¹ divide sleep disorders into four types:

(1) Disorders of initiating and maintaining sleep (DIMS)

(2) Disorders of excessive somnolence (DOES)

(3) Disorders of the sleep-wake schedule

(4) Dysfunctions associated with sleep, sleep stages or partial arousals

Unfortunately, the *Diagnostic Classification of Sleep and Arousal Disorders*²¹ by the Association of Sleep Disorders Centers is an impure classification system. This system assigns sleep disturbances according to the type of complaint (symptom) rather than the type of pathology. This type of classification is weak for many reasons. In the first place, narcolepsy, an illness that often presents with excessive and inappropriate sleep attacks during the day, also produces poor sleep at night, so that this condition could be classified as a DOES or as a DIMS. For another example, patients with obstructive sleep apnea complain of sleepiness, whereas polysomnography reveals that the patient awakens frequently during the course of sleep. Furthermore, excessive daytime sleepiness (DOES) can be a result of chronic insomnia (DIMS). Therefore, hypersomnia and insomnia patients may present with the same chief complaint of excessive daytime sleepiness. Finally, conditions that should logically be grouped together such as the central sleep apneas and the upper airways apneas are split using this system.

Despite classification problems, the Sleep Disorders Classification

Committee believes that classifying sleep disorders by the type of complaint offers the best system of classification at the present state of the art. In the first place, a symptom category classification provides an easy method for upgrading diagnostic skills. This system also gives first priority to listening to the patient and offers a rational path for differentiating the various causes of sleep disturbances. As more is learned about disturbed sleep, the classification system will undoubtedly be refined, but currently it offers the most logical approach to diagnosis.

TAKING A SLEEP HISTORY

To make a proper diagnosis of a sleep disorder the physician must obtain a sleep history. In taking a sleep history the physician determines the onset, course, and clinical characteristics of the problem. The 24-hour sleep/wakefulness pattern is evaluated. A family history of sleep problems is obtained and additional information is gathered from the bed partner. The impact of the sleep problem on the patient's life is assessed and the attitudes of the patient and the family toward the sleep disorder are evaluated.²²

THE SLEEP EVALUATION CENTER

For those individuals who cannot be diagnosed definitively through a history and physical examination, referral to a sleep evaluation center is in order. The diagnostic assessment may vary among sleep evaluation centers, but the general approach consists of a detailed history and physical examination, including a thorough neurological evaluation and a psychiatric interview. Following these procedures the patient is asked to complete a sleep diary. Some centers require the patient to complete a Stanford Sleepiness Scale, sleep inventory, Minnesota Multiphasic Personality Inventory (MMPI), and the Cornell Medical Index.

After the appropriate information has been gathered, the patient is given an appointment for evaluation in the sleep laboratory. The patient reports to the lab one or two hours

before his usual bedtime. Electrodes and sensors are applied. Two central scalp electrodes are used to record an electroencephalogram (EEG), two electrodes are applied to the outer canthi of the eyes to record eye movements, two chin electrodes are used to record an electromyogram, and two reference electrodes are applied to the ear lobes.²³ In addition, a sensor is used to measure the respiratory rate and breath-by-breath air flow. Electrocardiogram leads are applied and surface EMG leads are positioned over the right and left anterior tibialis muscles. After electrode application, the subject retires to a comfortable bedroom and a technician in a separate room monitors the

polysomnogram, which gives a continuous recording of EEG, muscle tension, eye movement, EKG, and respiratory activity.

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Thus, it appears that inflammation of the kidney may be set up by a great variety of irritants, some arising in the body, others introduced from without. The severity and duration of the inflammatory attack depends much upon the nature of the cause. The various morbid and foreign irritants which have the power of producing the disease differ much in the disturbance they produce. Thus, the matter which comes upon the kidneys as the result of a certain action of cold is more mischievous than the poison of scarlet fever, the poison of scarlet fever more mischievous than that of diphtheria. Lead and alcohol, among introduced irritants, give rise to the most protracted and dangerous form of the disease. Turpentine may perhaps come next. It is probable that one reason for the greater power for evil which lead, alcohol, and perhaps turpentine possess is due to the continued or repeated manner in which these substances are apt to be presented to the system. Mere drugs, like cantharides, which are purely medicinal, are necessarily of transient operation, and seldom give rise to more than temporary disturbance. — Dickinson WH. *A Treatise on Albuminuria*. 2nd ed. New York: William Wood & Company, 1881.

Experience with the Inflatable Penile Prosthesis in the Treatment of Organic Impotence

R. Dale Ensor, M.D.

ABSTRACT Since 1974 the author has treated 27 organically impotent men by surgical implantation of an inflatable penile prosthesis. With improvement in surgical technique and with modification of prosthesis components, complications have been infrequent and easily corrected. When motivation is good and expectations realistic, patient-partner satisfaction has been excellent.

IN 1973 Scott¹ reported the implantation of an inflatable type of penile prosthesis for the treatment of impotence. The prosthesis (Figure 1) consists of two inflatable penile cylinders inserted within the corpora cavernosa, a fluid storage reservoir which is placed extraperitoneally in the suprapubic space behind the rectus muscle, and a pump positioned in the scrotum anterior and superior to the testicle. Each component is made of a medical grade silicone elastomer which, based on mechanical testing, can be expected to function at least 20 years. This report summarizes my experience with this prosthesis over a seven-year period.

PATIENT SELECTION

A careful history is taken to determine the cause of impotence. A

history of retroperitoneal or pelvic surgery or trauma is sought. Inquiry is made regarding symptoms of neurologic disease, of inflammatory conditions of the lower urinary tract, of endocrine abnormalities, and of vascular insufficiency. A history of drug use and alcohol abuse is sought. Medications associated with alterations in male sexual function include anticholinergics, antidepressants, antihypertensives, sedatives, narcotics, sympatholytic agents, tranquilizers, estrogens and marijuana. The patient should be questioned about his sex drive, as a low libido sug-

gests depression or hypogonadism.

A complete physical examination is performed. The presence or absence of the usual secondary sexual characteristics is noted, and the external genitalia are carefully examined for inflammatory conditions, chordee, Peyronie's plaque, penile and testicular size, or congenital abnormalities. Rectal examination reveals not only the size and consistency of the prostate but also anal sphincter tone. If anal sphincter tone is lax, a more complete neurological examination is indicated. Peripheral neuropathy suggests neurologic disease or diabetes mellitus. Pulses in the lower extremity should be assessed for evidence of peripheral vascular disease.

Pertinent laboratory studies are obtained. A serum testosterone level indicates the interaction of the pituitary-gonadal axis. If the value is low, pituitary function is determined by levels of serum follicle-stimulating hormone, luteinizing hormone, and prolactin. A low testosterone associated with normal or elevated levels of follicle-stimulating hormone and luteinizing hormone indicates primary testicular failure. Patients with hypogonadism secondary to pituitary disease usually have low levels of follicle-stimulating hormone and luteinizing hormone. Patients with prolactin-secreting pituitary tumors frequently have hypogonadism, erec-



Figure 1. The inflatable prosthesis consists of paired penile cylinders, a fluid storage reservoir, and an inflate-deflate pump.

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tile dysfunction, and gynecomastia.²

Suspicion of diabetes mellitus is confirmed by blood sugar analysis. A panel of blood chemistries (SMA-12) is indicated to exclude occult liver or renal disease. The reader is referred to a current volume of *The Urologic Clinic of North America* for a more complete and comprehensive discussion of male sexual dysfunction.³

Table I presents the causes of impotence in the 27 patients treated. Other organic causes of impotence include: radical cystectomy, Peyronie's disease, priapism, aortic aneurysmectomy, radiation therapy, and multiple sclerosis. The patients ranged in age from 22 to 75 years, with the greatest number of men in the sixth decade of life (Table II). Although each patient was believed to be impotent due to an organic disease, psychiatric consultation was obtained in several cases. In all cases in which the patient was married the wife was interviewed. While both the semirigid rod and the inflatable prostheses were offered, in no case did the patient elect the semirigid rod. The major factor in prosthesis selection was the more physiological function of the inflatable device. The greater expense of the inflatable prosthesis was not a deterrent as insurance coverage was available in all cases of organic impotence.

RESULTS

Since May, 1974, 27 patients have had inflatable penile prostheses implanted. The surgical technique has been described in detail by Scott⁴ and by Furlow.⁵ More recently the device has been implanted by Scott through a peno-scrotal incision

TABLE II
Age Distribution of Patients

| Age (years) | Number of patients |
|-------------|--------------------|
| 20-29 | 2 |
| 30-39 | 1 |
| 40-49 | 7 |
| 50-59 | 13 |
| 60-69 | 3 |
| 70-79 | 1 |
| Total | 27 |

rather than a suprapubic approach. The peno-scrotal technique simplifies insertion of the penile cylinders and pump, but placement of the reservoir is difficult. Recently, I implanted the cylinders and pump through a peno-scrotal incision and the reservoir through a suprapubic incision. Although requiring two small incisions, this technique combined the advantages of each approach for the particular prosthetic component. The length of operating time was not significantly affected. The patient experienced minimal operative discomfort and was discharged from the hospital the third day following surgery.

Table III summarizes the complications and their management. Six patients experienced complications with three having more than one complication. The first patient implanted in May, 1974, had rupture of the right penile cylinder in December, 1979. This was corrected by replacement of the cylinder. Two months later the left penile cylinder was replaced because of bulging. The patient has had no further problems. It is of interest that he has fathered three children in the past five years.

Two complications were experienced by the third patient, operated on in November, 1976. The prosthesis functioned properly for three weeks after which fluid could not be transferred from the reservoir to the pump because of a kink in the connecting tube. The kink was corrected; however, one week later wound infection occurred which did not resolve on antibiotic therapy, and the prosthesis had to be removed.

The fourth patient, operated on in August, 1977, had satisfactory prosthesis function for over two years

before developing a fluid leak through the pump. The pump was replaced, and at the same time longer penile cylinders were inserted to provide better stability to the glans penis.

In the past three years only three of 23 patients experienced kinks in the tube between the reservoir and pump. All were easily corrected by a brief operation. Modification in operative technique has virtually eliminated tube-kinking problems.

Two patients impotent due to diabetes mellitus also had severe Peyronie's disease. In one case the penile curvature was satisfactorily corrected upon inflation of the penile cylinders. However, in the second case the severe curvature which persisted was corrected by incising the Peyronie's plaque and covering the gap in the tunica albuginea with a dacron patch graft.

DISCUSSION

The incidence of impotence is unknown but has been estimated to be as high as 10%.⁴ Serious attempts to correct this psychologically devastating condition were pioneered by Lash in 1964⁶ and by Pearman in 1967⁷ with placement of silicone rods into the penis for stability. Small and Carrion in 1975⁸ developed paired silicone rods of superior design, and Finney in 1977⁹ introduced a hinged rod to facilitate concealment. However, all semirigid rod prostheses share the major disadvantages of a permanent erection and difficulty of concealment. The inflatable prosthesis is the most physiologic device available. The penis is erect only when intercourse is desired (Figure 2). The rigidity of the penile shaft is so near normal

TABLE I
Causes of Impotence

| Cause | Number of patients |
|-----------------------|--------------------|
| Diabetes mellitus | 13 |
| Radical prostatectomy | 3 |
| Spinal cord injury | 3 |
| Pelvic injury | 3 |
| Vascular disease | 3 |
| Proctocolectomy | 1 |
| Transverse myelitis | 1 |
| Total | 27 |

TABLE III
Complications in Twenty-Seven Patients

| Complication | Number of patients | Disposition |
|----------------------------|--------------------|-------------|
| Kink in tube | 4 | Corrected |
| Rupture of cylinder | 1 | Replaced |
| Bulging of cylinder | 1 | Replaced |
| Defect in pump | 1 | Replaced |
| Inadequate cylinder length | 1 | Replaced |
| Infection | 1 | Removed |
| Total* | 9 | |

*Three patients had two complications each.

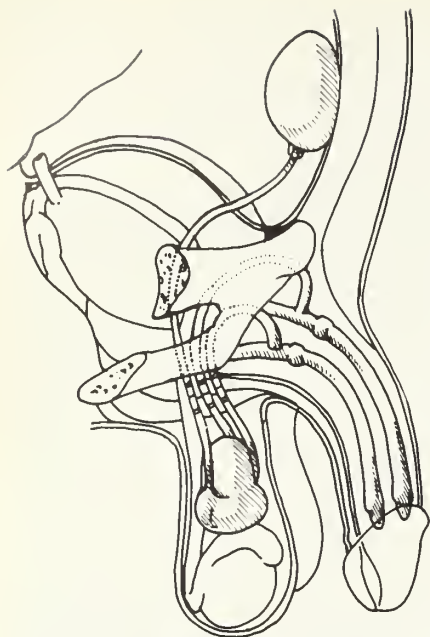


Figure 2a. The flaccid penis with fluid in the reservoir.

that when the female partners were questioned, they all related that vaginal sensation to penile stimulation felt normal. Orgasmic sensation is preserved. If ejaculation occurred prior to the onset of impotence, it is preserved. Should transurethral surgery be necessary in the future it is easily accomplished with the penis flaccid, thus avoiding a perineal urethrostomy which is necessary with the semirigid rod devices.

The major disadvantage of the inflatable prosthesis is that it is a mechanical device and susceptible to malfunction. Changes in component design and in technique of insertion have reduced complications

to an acceptable level. Furlow¹⁰ in reporting his three-year experience with 175 patients at the Mayo Clinic noted a reduction from 48% to 10% complications. He removed only six prostheses because of infection for an overall satisfactory function rate of 96%. Scott⁴ reported similarly good results in 234 of 245 patients with only 11 requiring prosthesis removal. In both these large series, failures occurred primarily in the first several years of experience with rare complications in the last three years.

In my own experience, complications occurred in three of the four cases performed from 1974 to 1977. One case required prosthesis removal for eradication of infection. Only three minor problems of tube-kinking, all easily corrected, have occurred in the last 23 patients. Improved surgical technique has reduced the complication rate significantly. There has been no prosthesis component failure in the last four years.

Obviously not all men complaining of impotence or erectile difficulties are appropriate candidates for prosthetic surgery. Every effort should be made to determine the etiology of the impotence. Nocturnal penile tumescence testing has been helpful in differentiating organic from psychogenic impotence, as has the Minnesota Multiphasic Personality Inventory evaluation and psychiatric consultation.¹¹ It is important for the patient and his partner to realize that a penile prosthesis enables vaginal penetration for resumption of normal coitus, but it is not a panacea for any

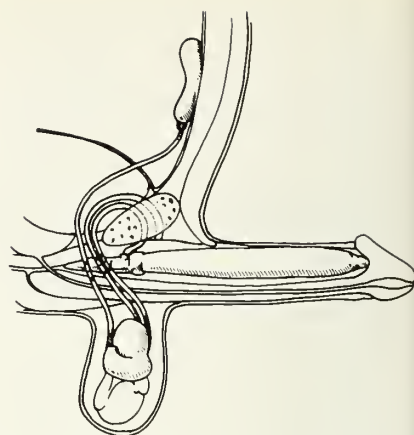


Figure 2b. The fluid has been pumped into the penile cylinders causing an erection.

and all psychosexual problems which might exist. When motivation is good and expectations are realistic, patient-partner satisfaction has been over 90%.¹²

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Turpentine appears in some cases to have an action upon the kidneys similar to that of cantharides. The urine has become albuminous and even bloody after a dose of turpentine, and the same effects have followed the taking of copaiva. As the result of either of these drugs used medicinally, albuminuria is, however, very rare, and when it occurs, transient. I am not aware that the general symptoms of nephritis have ever been associated with the alteration in the urine thus produced. Renal dropsy has, however, been attributed to the inhalation of turpentine, a process by which the organs may be acted on for a much longer time than could result from any legitimate use of the drug as medicine. — Dickinson WH. *A Treatise on Albuminuria*. 2nd ed. New York: William Wood & Company, 1881.

Special Article

Apples of Discord

Sir Douglas Black, M.D.

MY first thought of a title for this lecture was "Apples of Sodom"; but I felt that this might be misconstrued. So I have settled for "Apples of Discord," which is merely cryptic, and not positively misleading. You will recall that the original apple of discord was the one which Eris threw on the table at the wedding of Peleus and Thetis, saying "For the most beautiful." This led to the judgment of Paris, and so to the Trojan War. The apples of Sodom, on the other hand, are described thus: "There are apple-trees on the sides of the Dead Sea which bear lovely fruit, but within are full of ashes." Disappointing, perhaps, but scarcely catastrophic. There are other famous apples — those of the Hesperides; the golden apples of perpetual youth, the food of the gods in Valhalla; that thrown by Virgil's Galatea, and — equally legendary perhaps — that which startled Isaac Newton. From the U.S.A., we have "apple-polishing" as a synonym for flattery; and the Apple Tree Gang, who introduced golf at Yonkers, N.Y., in a six-hole orchard — an implant which seems to have taken. But I think I may have sufficiently discharged my Plain-Dealer's obligation to the first

word of my title; and I proceed to divulge what this lecture is to be about.

I propose to consider one or two of the conflicts between those of us who practice medicine, and those who purport to speak for society: and, for good measure, one or two of the issues which seem to divide our own profession. And to end, it may be paradoxically, with a plea that perhaps so much conflict is not necessary, and that we should be deploying more charity in an effort to agree.

Some criticisms of modern medicine

There are two major lines of attack on the value of modern medicine, the more radical, exemplified by Illich (1974); and the (slightly) less radical, exemplified by Bradshaw (1978).

Let me introduce the first of these, with a starkness befitting the subject, by quoting two sentences from Ivan Illich: "Within the last decade, medical professional practice has become a major threat to health. Depression, infection, disability, dysfunction and other specific iatrogenic diseases now cause more suffering than all accidents from traffic or industry."

To comment on the semantics, what is "specific," let alone "iatrogenic" about "depression, infection, disability and dysfunction"? But leaving aside the verbal flour-

ishes, and recognizing how much still remains to be done, what are we to make of the judgment of a man who appears unaware of such matters as the disappearance of small-pox, and the development of specific treatments for most bacterial infections, to give only two examples? In a most valuable paper, Paul Beeson (1980) has compared the treatments advocated in the first (1927) and the 14th (1975) editions of Cecil's *Textbook of Medicine*, there being 362 disease states common to the two editions. In crude summary of his detailed analysis, in 1927 there were effective treatments for fewer than 30 diseases, while in 1975 more than half of the diseases were susceptible to effective treatment or prevention. It remains true, of course, that in this world nothing is certain except death and taxes: and immortality is not a National Health Service benefit. Many of the killing degenerative diseases, and the neoplasms, remain largely beyond the scope of effective medical intervention; but because we cannot do everything, it is a pretty desperate leap to affirm that we can do nothing but harm. And I regard such affirmation as an insult to humanity, of which we doctors are an integral part. Illich is also willing to criticize our profession for the relief of pain. There is one other aspect which should be mentioned before leaving the most radical attack on medicine — the value of soundly-based reas-

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surance, described by McDermott (1978) as "the technology-based ability to report negatives authoritatively and hence help maintain peace of mind." Buried in that formulation are commendations of technology and of a doctor's right to authority, to which I shall return later. Correct reassurance is not an "outcome" to be assessed on a par with cure or symptomatic relief, but it certainly does not lack value.

Bradshaw, having had a medical education, is less radical to a limited extent, disclaiming that "any individual doctor is criticized, let alone that the value of doctors is totally decried" (which would, I think, be Illich's position). He admits that "there are many occasions on which it is essential to consult the best doctor one can find, and many others on which it is highly desirable to do so." Nevertheless, he is critical of "many aspects of modern western medicine": and in his summing up he opines that "western doctors today are certainly more productive, directly or indirectly, of ill-health, in every sense than of health." It is perhaps the "high-technology" aspects of medicine, admittedly set in a "high-technology society," to which he specifically objects. I am not in sympathy with this Luddite approach, given that technology remains ancillary to traditional medicine, and does not become an end in itself. I think most of us would prefer a CAT scan to an exploratory craniotomy, or even an air encephalogram. There is, of course, the further argument that preoccupation with "high-technology medicine" may erode human sympathy, so necessary in the care of the sick. If this were necessarily true, I would be joining Bradshaw in his criticism, but my whole experience forbids me to accept it. With the advent of haemodialysis, the nephrologists whom I know well have become more caring, and more effectively caring — not less.

The doctor-patient relationship

Without proceeding to extreme criticism of modern medicine and all its works, many sociologists are concerned about the respective

roles of doctor and of patient. They question the right of the doctor to hold and express authoritative opinions, when so much in medicine is still uncertain; and while generally accepting the therapeutic effectiveness of many medical interventions, they question whether the doctors are giving adequate psychological support, and communicating sufficiently with their patients. I think this matter must be looked at from the perspective of professional history, as well as from more recent sociological formulations.

Medicine has been regarded as a profession from time immemorial, and is still generally so regarded, even if the pressures of inflation in the past few years have occasionally led to statements, and more rarely even to actions, which it would be hard to look on as consistent with professional standards. The touchstone of professional conduct is that it places the interests of the client (in the case of medicine, more generally and better known as the patient) above the interests either of the individual practitioner or of the profession as a whole. The conflict implied in this statement is almost always resolvable on the basis of common interest. Given that doctors want to help their patients, and that patients want their help, only a tiny minority of transactions between patient and doctor do in fact conform to the model of an "adversary situation," put forward by certain sociologists. Medical practice certainly has its trials and disappointments, but in my experience these have arisen from the fact of life, and only very rarely from those stereotypes "the callous doctor" or "the unreasonable patient." Of course, the perception of illness always causes anxiety to the patient, and disease may end in tragedy; but it is my belief that this is well understood by both doctor and patient, in the great majority of cases. Should a doctor happen to get credit for a good outcome to which he has contributed but little, or conversely be blamed for a bad outcome which was inevitable, these things stick in his mind, it may be disproportionately, to the ne-

glect of the common run of episodes where the contribution of the doctor is fairly assessed. In that context, I welcome the growth of medical knowledge in the informed public, and acknowledge the general contribution made by the media; certainly, medical articles and programs can lead to anxiety, especially if badly presented, but it is at least possible that the presentation can be providing a focus for anxiety, rather than causing it in someone who would otherwise be contented. To the same end, I welcome the emphasis laid by Charles Fletcher (1973) and others on communication between doctor and patient; good methods of communication should be both taught and even more important, exemplified in our medical schools.

Having deprecated one sociological model on the basis that it may create antagonism between doctor and patient, to their common disadvantage, I go on to criticize another, on somewhat different grounds. Talcott Parsons (1950) suggested in the early '50s that illness, which he described as "the sick role," was a form of "social deviance," and that the doctor was an agent of society, dedicated to its correction. Rather surprisingly, this model has been criticized by later sociologists as being "too medicocentric;" whereas it would, I think, be totally rejected by the majority of doctors. Of course, social factors play an important part both in the causation and in the expression of illness; and further, return to work and to a place in society is an important objective in the treatment of illness. However, while individual doctors have made notable contributions to social and occupational medicine, more doctors are engaged in one or other form of clinical care, whose focus is overwhelmingly on the individual, and only marginally, usually subconsciously, on society.

Although doctors have been aware informally that their approach to diagnosis and treatment is influenced by the circumstances of the consultation, sociological studies on medical practice have attempted to systematize the various relevant factors. Doctors with a

sociological orientation can make a useful contribution, exemplified in a recent article by Eisenberg (1979). The contribution of the patient to the interview is influenced by his age, social class, financial circumstances, and his educational and ethnic background.

Physicians are regarded as either interventionist and disease-oriented, or oriented towards the maintenance of health — a distinction with which I disagree, believing that ideally both outlooks should be brought into service, and that practically there is a continuum of attitudes both between doctors, and also in the same doctor under different circumstances. The way in which the doctor interacts with his profession is also important. He imbibes diagnostic and therapeutic habits from his colleagues, and his approach to the patient is also modified by the system of health care in which he operates. Eisenberg illustrates the influence of professional style by contrasting the ways in which physicians and surgeons make decisions. He quotes a study which indicated that in medical wards there was a significant degree of delegation of responsibility and authority, so that "the medical house officers based their decisions, to a large degree, on consensus with the chief resident or visiting physician presiding and leading the discussion." Whereas "on surgical wards, decisions were made by the chief resident and orders were given to all members of the hierarchy." This dichotomy of practice may be justified by greater time being available, as a rule, for medical decisions to be taken by consensus; whereas on surgical problems "the emphasis is on action and punctuality."

In addition to the personal characteristics of doctors and patients taken separately, there are various models of the doctor-patient relationship. Ideally, this may be one of "detached concern," but in practice the pattern varies. Szasz & Hollender (1956) described three models: activity-passivity, in which the physician is in control and the patient is passive; guidance-cooperation, in which the doctor advises

and the patient is expected to comply; and mutual participation, in which the physician helps the patient to help himself. The obvious partiality of these authors for the third of these models is no doubt commendable; but in real life the second is more frequent, partly because it is more attainable. In my own experience, patients do not welcome undue exposure to the doctor's decision-making dilemmas, and their response to discussion and explanation is often to say "Well, doctor, I leave it to you." There are of course exceptions, usually among the less gravely ill.

One author has had the hardihood to characterize "the undesirable patient" (Papper 1970). He mentions physical attributes — the ungrateful and obnoxious; those with untreatable illness, or those with no physical illness; and "those who are undesirable because the physician considers them to be a distraction to preferred tasks, such as reading or laboratory research." With conviction which amounts to certainty as the fourth of these categories is approached, I would regard these as characteristic of the undesirable doctor, the patient being merely unfortunate.

The dangers of safety

"*Primum non nocere*" is an admirable motto for this or any other society. But when we come to apply it practically, we commonly discover that our choice is not between risk and safety, but lies among alternative courses of action, or inaction, none of which is absolutely safe. As Card & Mooney (1977) have shown, while there may be reluctance to "set a value on human life," it is possible in certain situations to determine within broad limits the cost of particular measures, and the number of deaths which their adoption would prevent. From this information, it is possible to calculate the implied value of a human life. Their examples make it clear that whatever determines the decisions of society in these matters, it is not cold financial logic. The general introduction of child-proof drug containers, estimated to cost £1000 per life saved,

was postponed on grounds of cost; conversely, following the Ronan Point disaster, strengthening of tower blocks was undertaken whose likely cost was £10 million per life saved. These two examples may give a clue to the considerations which make society deviate from what would appear to be financial sanity. Mortality associated with drama, as in an air crash, moves us profoundly; whereas the higher mortality on our roads attracts no comparable notice.

I believe that the disproportionate effect of drama has had a very damaging effect on our approach to drug safety regulations. For affected individuals and families, the effects of thalidomide have been a unique tragedy; but it has also been something of a tragedy for society, sparking off attitudes and regulations which have led at best to great delays, at worst perhaps to actual losses, in therapeutic innovation. It is easy to blame "the media," and this has been done amusingly by Rouse (1980), invoking the "Drayton Factor":

"Ill news has wings and with the wind doth go,

Comfort's a cripple and comes ever slow."

But I consider that the media detect and reflect public attitudes, rather than create them. It may even be an oblique compliment to modern therapeutics that the occasional failures, being unexpected, are scrupulously reported, whereas the quotidian successes go unremarked. This charitable view may gain some support from the willingness of the media to report even successes if they are sufficiently uncommon — kidney transplants are no longer news, heart transplants and limb replacements are.

The danger to drug development from inordinate delays in satisfying safety regulations may later be extended to therapeutic practice in general by the concept of "strict liability," especially if no mitigation is allowable for so-called "development risks." In a nutshell, this means that if anything goes wrong in a patient who is taking a drug, the maker or supplier of the drug or both are liable for compensation,

even if the adverse effect was quite unforeseeable at the time when the drug was developed and even if there is no real proof that the drug was in fact responsible for the effect. In its statement on "Strict Liability" to the Medicines Commission, the Royal College of Physicians drew attention to the dangers of "defensive medicine" inherent in this approach; and I would also refer you to David Kerr's (1980) article on the costs of safe medicine, from which I would like to quote a couple of sentences: "I hope I shall never be expected to explain to my hypertensives, already reluctant to take their drugs regularly, that there is a remote risk of heart failure, asthma, jaundice, diabetes, impotence, nightmares, motor accidents, gout, depression and writers' block. A few more massive awards in our courts on dubious grounds may compel me to do it."

Arguments of the type which I have been advancing could be (and indeed have been) construed as evidence of professional self-protection, so I must emphasize that the ultimate loser in all this will be the patient, who will pay more, whether as an individual or a taxpayer, for the medicines which he needs; who will find himself so bombarded by safeguards as to lose all confidence in his treatment; and who may turn away from prescribed remedies to nostrums whose effectiveness and safety are equally unwarranted. Some would regard this last as a consummation devoutly to be wished; I suggest that they go to history and biography for accounts of the illnesses suffered by our forebears.

Conflicts within medicine

It is a risky thing to say, but I believe that the majority of doctors might find themselves in broad agreement with what I have been saying. This comfortable intraprofessional conformity must now be abandoned, as I turn to some issues on which there are considerable differences of view within my own profession. The potentially divisive issues which I now propose to consider are the place of technology in

medicine; the means of assuring an acceptable standard of practice; and the number and selection of medical students.

Medical technology: I have already touched on this matter in commenting on the views expressed by John Bradshaw (1978). For a full statement of my own views on the matter, I would refer you to a recent commissioned article (Black 1980), which gives illustrative examples of the pervasiveness of technology in modern medical practice. In general terms, no doctor anxious to practice clinical medicine to a high standard would wish to be without the help available from the pathology laboratories, the radiology department, and facilities for clinical physiology and endoscopy. There is, of course, a problem of perspective; these facilities are complementary to bedside skills, and do not replace them. Similarly, in relation to therapy, facilities for resuscitation and life-support systems are ethically neutral assets, whose actual value depends on clinical judgment. Much has been made of the risks of "overdependence" and "dehumanization" which are attributed to medical technology; the defense against such risks to the extent that they may exist, lies in sound general standards of clinical practice.

Although a great deal of technology applied to medicine is demonstrably cost-effective, with savings in hospitalization and in the avoidance of prolonged ill health, there are certainly problems at the margin, when — as it must be — the economic dimension is brought in. This is not a suitable area for easy generalizations. On the one hand, if ideas are subjected to economic pessimism before they have even been developed to the prototype stage, there is a real risk of stifling fertile innovations. At the other extreme, generalization of diagnostic and therapeutic procedures with no prior economic analysis can mortgage resources of capital and revenue which might be better deployed in other ways. It is not, in my view, possible to apply economic analysis to "technology in general"; what is needed is detailed study of particular innovations, at the stage be-

tween development and generalization. Such analysis has to consider not only the costs of the proposed technique in isolation, but also the costs of alternative procedures; the possibility of improvements or "economies of scale" in the proposed technique and in its rivals; and the value and likelihood of possible outcomes arising from application of the technique. I would commend to you for study two recent analyses of this type. The study by Stocking & Morrison (1978) of the whole-body scanner indicates the complexity of the issues involved. Alexander Leaf's (1980) account of the rejection, for the present, of cardiac transplantation in the Massachusetts General Hospital by the trustees gives two important lessons: that the 'opportunity cost' of a proposed procedure must always be considered; and that it is the medical task to define the issues, but not to have the sole voice in the choice. Leaf's final two sentences are worth quoting: "Not all will agree with the decision of the trustees, and some will argue that only the professions should be involved in such determinations. If one considers that the medical profession has historically been fostered and preserved to serve a societal need and not to supply physicians with a privileged status, one can find little argument with the course that the MGH Trustees thoughtfully and responsibly followed."

"Quality assurance": Doctors and patients have a common interest in ensuring that medical practice reaches an acceptable standard; but there are wide divergences of opinion as to the best methods of assessing standards, and — more difficult still — what is the appropriate action when minimum standards of practice are not reached.

Good clinical decisions require a wide base of knowledge, an ability to communicate with patients, and a conscientious approach to the work. The information base required for medical practice, particularly perhaps in relation to medicines, has expanded rapidly, and is still expanding. Concurrently, the opportunities of "keeping up-to-

date" have also expanded, thanks to initiatives from the pharmaceutical companies, the Nuffield Provincial Hospitals Trust, and the Health Departments, more or less in that historical order; while continuously the voluntary medical societies and the medical journals have played an important part. The generalization of postgraduate centers has provided a venue for formal and informal contact between doctors who may have previously worked in comparative isolation. Many doctors now work in teams, almost universally in hospital, and increasingly in the community; this provides further opportunities for exchange of information, and also for informed assessment of performance. The medical profession is not always given enough credit for the effort which it has made, with some outside support, to provide the facilities for continuing education, including self-education. However, while the general level of relevant information is probably as high as it has ever been, no honest doctor would claim to know all that he should know, and a minority of doctors might have to be classed as ignorant, and even "invincibly ignorant," in the sense that they take little or no trouble to follow the march of knowledge. To an extent, relative ignorance may be compensated for by personal qualities of empathy and conscience, and I have known doctors, well-liked by their patients, who could not be regarded as well-informed. From what we know of the learning process, I see little virtue in compulsory recertification, in financial inducements to attend courses, or indeed in compulsory courses: knowledge cannot be administered by stomach-tube, it depends on a modicum of curiosity in the recipient. It follows also that those who try to instruct in speech and in writing have responsibility not only for the soundness, but also for the interest of their message, which perhaps brings me to the second component of the basis for good clinical work — adequate communication between doctor and patient.

I believe with Charles Fletcher (1973) that the basis of good com-

munication has to be laid in the medical school. Courses in behavioral science should include the theoretical basis of communication; medical teachers on appointment should have a course in the techniques of communication, lest theoretical precept be vitiated by bad example. But the most important thing is practical teaching, and above all practical experience, both in acquiring information from patients and imparting it to them. For this reason I am a strong advocate of the attachment of students in small groups to district hospitals, and also, in outpatient teaching, of limiting the number of students in any consulting-room to one or two, so that they can witness a real consultation, and not be passive recipients of a teaching session. The techniques of communication between individuals are largely different from, and in the long run more important than, the techniques of class-room instruction.

What can we usefully say of conscientiousness, which is so much an individual matter? For the extreme case of dereliction of duty, the sanctions of the General Medical Council remain: and the operations of that body are being made more sensitive by the possibility of suspension rather than outright removal from the register; and by the recognized distinction, in general, between doctors who are sick and those who are faultily motivated, difficult though this may be to establish in the particular case. On the more positive side, I believe our profession is fortunate in that the general thrust on its individual members is towards giving a caring and worthwhile service to our patients. We are not, of course, practising in Utopia, and some doctors grumble unreasonably about patients, and of course some patients about doctors; but these exceptions do not invalidate the general picture of a profession with high ethical standards.

When we come to the key question — "Is enough being done to maintain standards of practice, or should we be doing more?" — we face quite sharp disagreement. There are strong public and par-

liamentary pressures to bring medical practice under closer scrutiny, whether by the ombudsman, or in some other way. Some members of the profession maintain that all such pressures are to be resisted, without argument and without compromise, and that we should have nothing to do with medical audit, quality control or whatever. I take a different view, believing that quite irrespective of outside pressures (but also as the best way of resisting them) we in the profession should be studying both the process and outcome of our interventions, with a view to improving standards of practice still further. Like other Colleges and Faculties, the Royal College of Physicians is active in maintaining standards in training in the appointment of consultants, and in continuing education. More specifically, I welcome the activities of the Medical Services Study Group within the College, directed by Sir Cyril Clarke and supported by the King Edward VII Hospital Fund, which in many ways is seeking to extract the lessons from past practice, with a view to improving practice in the future. Doctors have shown themselves willing to take part in collaborative research with the group for the improvement of practice.

Number and selection of medical students: I find myself in disagreement with two statements which are often made, and which seem to have some support — that we are now training too many medical students, and that we pay too much attention to examination results in selecting them.

In approaching the numbers of medical students required, I have to state a bias and an assumption. The bias arises from experience of the effects of the Willink report, which reduced the numbers of medical student entrants until its fallacy was exposed by LaFitte & Squire (1960). The assumption is that, while movement of doctors for training purposes is desirable, the established posts in the health services of a country should almost entirely be occupied by those who have trained in its own medical schools. Our present state of dependence on doctors trained in the

developing countries is not ideal for this country, and is of course severely damaging to the countries who have trained them at great expense. I intend no disparagement to individual doctors from the developing countries, many of whom have done their postgraduate training here, and are now doing excellent work in established posts. But we cannot escape the obligation to ensure that our own production of doctors is adequate to make this a temporary state of affairs. When this imbalance has been corrected, it may of course be necessary to reduce once more the admissions to medical schools. There may also be economic constraints on what we can afford; but we must not make virtues of such necessities. We must of course continue to welcome overseas doctors for advanced training, followed by return to their own countries; but we must correct our dependence on them for career posts, especially in the shortage specialties.

On the other matter — the stress laid on examination performance in selection of medical students — I would certainly not wish to maintain either that intelligence is all that is required of the doctor, or that it is infallibly assessed by the results of "A" level examinations. As a former admissions tutor, I have seen too many highly-qualified students run out of motivation, and too many whose "A" level examination results have been inflated by intensive coaching, to hold either of these views. But I would just as strongly oppose another view which is sometimes put forward, that the practice of medicine, so far from requiring high intelligence, is so boring and repetitive as to make it suitable for well-upholstered mediocrity. I suppose it is possible that a doctor can be too clever, but he cannot be too intelligent; and on a lower plane the ability to pass examinations is no handicap to a medical, or any other, student. Having thus exposed my elitist cloven hoof, perhaps I can go on to say that the children of doctors deserve some preference, since they at least know what they are letting themselves in for; and that the best evi-

dence of good and appropriate motivation is furnished not by pious declarations of intent, but by a demonstrable interest in natural history, better still in human beings, perhaps best of all by a voluntary period of hospital work. So I would plead for a balanced selection process, with a reasonable examination performance regarded as a valued asset.

From conflict to creativity

Controversy may either be sterile, with blinkered combatants entrenching themselves in fortified camps; or creative, with the participants gaining understanding of previously unconsidered attitudes and arguments. The old Adam in us admires "a bonny fighter"; but surely the second of these courses is the better one to follow, if we can but manage it. To do so, we need the old-fashioned virtues of *humility*, *charity*, and *uprightness*. Humility preserves us from an obdurate attachment to our original point of view, the dangers of which are pointed out in one of Coleridge's aphorisms: "He who begins by loving Christianity better than Truth will proceed by loving his own sect of church better than Christianity, and end by loving himself better than all." Charity could be regarded as the outward and visible expression of an inward and spiritual humility — in withholding esteem from ourselves, we freely grant it to others. A charitable attitude in controversy not only turns away wrath, it lays the basis for future understanding and cooperation. Where then does "uprightness" come in? — a word which I only use after some hesitation. I think it comes in exactly as it was expressed in the famous words of Abraham Lincoln in his Second Inaugural: "With malice toward none; with charity for all; with firmness in the right, as God gives us to see the right." In our present context, I think this means that having probed the weaknesses in our own position, having accepted the strengths in that of others, we must still arrive at and proclaim a position which we are prepared to defend. Perhaps I can best illustrate my meaning by

going away from the medical field, and commenting on the debate between those who advocate a literary and those who advocate a scientific education — as if these were exclusive.

In his book, *Literature and Science*, Aldous Huxley (1963) sets the scene as follows: "Snow or Leavis? The bland scientism of 'The Two Cultures': or, violent and ill-mannered, the one-track moralistic literalism of the Richmond Lecture? If there were no other choice, we would indeed be badly off."

He goes on to plead that writers should try to convey to their readers some of the insights which science has given into the human condition, and the nature of the universe. He recognizes, of course, the essential difference between language as used by scientists to achieve maximum clarity and definition, and as used by authors, with every device of sound, syntax and veiled allusion, to bring in overtones of emotional awareness. The scientist is concerned with the public and universal, the artist with the private and particular. Huxley's book is addressed to authors, urging them to make the effort, first to understand, and then in their own way to express, modern cosmogony — just as their predecessors were able to distil imagery from the cosmogony of their day: think of Lorenzo's (quite inaccurate) description of the starry heavens, so marvellously set to music by Vaughan Williams. I believe that the scientist has a duty here as well, to labor sufficiently at the craft of writing to make what he has to say not only unambiguous and intelligible, but also both readable and capable of striking the imagination. Even in purely technical writing, he can be at least grammatical; but for some of us at least, the responsibility seems to go beyond that. We cannot all be like Lewis Thomas or Peter Medawar; but we have a certain duty to write for a wider public in ways which do not offend every canon of literary craftsmanship. A sharp-tongued physicist is said to have advised a colleague to publish his collected works under the title "Tales of Mystery and Imagination." The re-

cient of this advice was neither pleased nor amused — but might I just question whether some infusion of these elements in scientific writings might not help to correct the picture of the scientist as the antithesis of “the man of feeling.” Sherrington lost nothing of his scientific stature through being also a poet, and giving his Gifford Lectures on “Man and His Nature.”

The synthesis of human and scientific values, desirable for any man, is particularly necessary for a doctor. For as Hippocrates put it so long ago, “Where the love of Man is, there also is love of the Art” — an art which since his day has been enriched and transformed by the fruits of science.

Why did I hesitate earlier to use the word “uprightness”? Because our country seems to me to be going

through what I hope is merely a “bad patch,” in which intellect and morals are alike the objects of scorn — the one by the “inverted elitism” so alarmingly displayed in some of the comprehensive schools, the other by the friends of “the permissive society,” which has not visibly brought us to a reign of peace and happiness. I wonder if Disraeli would still be prepared to say “We know no spectacle so ridiculous as the British public in one of its periodical fits of morality.” Were it not also tragic, I would regard our present fit of immorality as being distinctly more ludicrous.

Why did I then in the end decide to use it? Because I believe that our national recovery, for which I pray, will come not from North Sea oil, nor from sociological theorizing, nor from tolerance divorced from

compassion; but from a revival of true integrity, free alike of self-righteousness and of hypocrisy. In that belief I wish to stand and be counted.

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Renal dropsy, with the symptoms of tubal or diffuse nephritis, is by no means uncommon as the result of hard drinking. It appears, however, that this effect is more often produced by a definite period of great excess — as single protracted debauch, or a sudden change from sobriety to drunkenness — than by habitual intemperance. A young man was recently under my care with evidence of tubal inflammation — dropsy, the urine containing much albumen, blood, a quantity of renal epithelium, and epithelial casts — in whom the disease followed his obtaining a situation in the Docks, with access to the wine-casks. He appeared to have made the most of his opportunities, confessing to being drunk twice a week, and taking as a minimum a quart of wine daily. After ten months of this, without any ascertained exposure or other source of disease, he was attacked with the symptoms described. — Dickinson WH. *A Treatise on Albuminuria*. 2nd ed. New York: William Wood & Company, 1881.

Toxic Encounters of the Dangerous Kind

Methaqualone Intoxication

This substance, also known as Quaaludes,[®] "quads," "ludes," "sopers," "soapers," "mandies" and the "love drug," is a very popular prescription sedative-hypnotic as well as a highly desired illegal "street drug." It appears to be especially popular with high school students in North Carolina as well as young adults. There has been a great increase in the supply and distribution of this drug recently primarily due to its production in illegal laboratories in this country as well as by illegal importation.

Users claim that "ludes" give them a "high" — a euphoria marked by a "tingling" sensation followed by remarkable relaxation — the so-called "jellyfish" phenomenon. Associated psychotropic effects include a release of inhibitions, and easier communication creating an increased feeling of intimacy. These latter effects are probably responsible for methaqualone's reputation as an aphrodisiac, hence the street name "love drug." Sleep typically follows the "high."

Observing such a person when high on "sopers" often reveals a fairly characteristic clinical picture that can at least let you suspect this drug in your differential diagnosis. It is as if the patient were being observed through a slow motion camera; walking is slowed considerably, arm and leg movements are uncoordinated and speech is very slow and slurred. These effects can occur after ingestion of 150-500 mg of the drug.

Milder manifestations of methaqualone overdose include: headache, blurred vision, torpor or restlessness and anxiety. With larger doses there is a great increase in muscle tone marked by hyperflexia and myoclonus. Painful hyperacusis is a helpful clinical clue. With even larger doses coma and respiratory failure ensue.

One of the more *common* clinical presentations is *coma with myoclonus*. Seizures can occur. Unlike other sedative-hypnotic drugs in overdose, methaqualone does not commonly cause cardiovascular collapse. However, it is extremely dangerous when consumed with alcohol because the two act synergistically. Most of the methaqualone-related deaths may result from overdose, plus ethanol. Tachycardia is present in almost all of the overdose patients; pulmonary edema occurs in 50%-75%, coma occurs in adults with an average acute dose of 2400 mg and lethal dose is thought to be 114-133 mg/kg (approximately 8 g for a 70 kg adult). Diagnosis of methaqualone overdose is diagnosed by history and physical examination with laboratory confirmation. Toxic blood levels of methaqualone are about 1.0-3.0 mg/dl; lethal levels are usually > 3.0 mg/dl.

There is no specific antidote for methaqualone poisoning. Treatment includes gastric emptying, instillation of activated charcoal, saline cathartics, and adequate ventilation. Forced diuresis is contraindicated because pulmonary edema is so common; charcoal hemoperfusion is now felt to be very useful in severely intoxicated patients. It is entirely possible that 20th century America could have survived without this medication ever being introduced.

Ronald B. Mack, M.D.
Department of Pediatrics
Bowman Gray School of Medicine
of Wake Forest University
Winston-Salem, N.C., and
Chairman, Committee on Accidents
and Poison Prevention
N.C. Chapter of the American
Academy of Pediatrics

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Serum K⁺ and BUN should be checked periodically (see Warnings).

Before prescribing, see complete prescribing information SK&F Co. literature or PDR. The following is a brief summary.

WARNING

This drug is not indicated for initial therapy of edema or hypertension. Edema or hypertension requires therapy titrated to the individual. If this combination represents the dosage so determined, its use may be more convenient in patient management. Treatment of hypertension and edema is not static, but must be reevaluated as conditions in each patient warrant.

Contraindications: Further use in anuria, progressive renal hepatic dysfunction, hyperkalemia. Pre-existing elevated serum potassium. Hypersensitivity to either component or other sulfonamide-derived drugs.

Warnings: Do not use potassium supplements, dietary or otherwise, unless hypokalemia develops or dietary intake of potassium is markedly impaired. If supplementary potassium is needed, potassium tablets should not be used. Hyperkalemia can occur, and has been associated with cardiac irregularities. It is more likely in the severely ill, with urine volume less than one liter/day, the elderly and diabetics with suspected or confirmed renal insufficiency. Periodically, serum K⁺ levels should be determined. If hyperkalemia develops, substitute a thiazide alone, restrict K⁺ intake. **Associated widened QRS complex or arrhythmia requires prompt additional therapy.** Thiazides cross the placental barrier and appear in cord blood. Use in pregnancy requires weighing anticipated benefits against possible hazards, including fetal or neonatal jaundice, thrombocytopenia, other adverse reactions seen in adults. Thiazides appear and

triamterene may appear in breast milk. If their use is essential, the patient should stop nursing. Adequate information on use in children is not available. Sensitivity reactions may occur in patients with or without a history of allergy or bronchial asthma. Possible exacerbation or activation of systemic lupus erythematosus has been reported with thiazide diuretics.

Precautions: Do periodic serum electrolyte determinations (particularly important in patients vomiting excessively or receiving parenteral fluids). Periodic BUN and serum creatinine determinations should be made, especially in the elderly, diabetics or those with suspected or confirmed renal insufficiency. Watch for signs of impending coma in severe liver disease. If spironolactone is used concomitantly, determine serum K⁺ frequently, both can cause K⁺ retention and elevated serum K⁺. Two deaths have been reported with such concomitant therapy (in one, recommended dosage was exceeded; in the other, serum electrolytes were not properly monitored). Observe regularly for possible blood dyscrasias, liver damage, other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving triamterene, and leukopenia, thrombocytopenia, agranulocytosis and aplastic anemia have been reported with thiazides. Triamterene is a weak folic acid antagonist. Do periodic blood studies in cirrhotics with splenomegaly. Antihypertensive effects may be enhanced in post-sympathectomy patients. Use cautiously in surgical patients. The following may occur: transient elevated BUN or creatinine or both, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), hyperuricemia and gout, digitalis intoxication (in hypokalemia), decreasing alkali reserve with possible metabolic acidosis. 'Dyazide' interferes with fluorescent measurement of quinidine. Hypokalemia is uncommon with 'Dyazide', but should it develop, corrective measures should be taken such as potassium supplementation or increased

dietary intake of potassium-rich foods. Corrective measures should be instituted cautiously and serum potassium levels determined. Discontinue corrective measures and 'Dyazide' should laboratory values reveal elevated serum potassium. Chloride deficit may occur as well as dilutional hyponatremia. Serum PBI levels may decrease without signs of thyroid disturbance. Calcium excretion is decreased by thiazides. 'Dyazide' should be withdrawn before conducting tests for parathyroid function.

Diuretics reduce renal clearance of lithium and increase the risk of lithium toxicity.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth, anaphylaxis, rash, urticaria, photosensitivity, purpura, other dermatological conditions, nausea and vomiting, diarrhea, constipation, other gastrointestinal disturbances. Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and, rarely, allergic pneumonitis have occurred with thiazides alone. Triamterene has been found in renal stones in association with other usual calculus components. Rare incidents of acute interstitial nephritis and of impotence have been reported with the use of 'Dyazide', although a causal relationship has not been established.

Supplied: Bottles of 1000 capsules; Single Unit Packages (unit-dose) of 100 (intended for institutional use only); in Patient-Pak™ unit-of-use bottles of 100.

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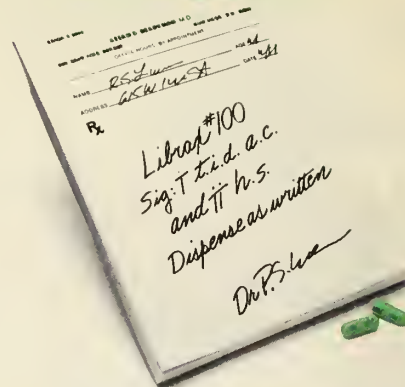
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Specify Librax[®]



Each capsule contains 5 mg chlordiazepoxide HCl and 2.5 mg clidinium Br.

Please consult complete prescribing information, a summary of which follows:

Indications: Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the indications as follows "Possibly" effective as adjunctive therapy in the treatment of peptic ulcer and in the treatment of the irritable bowel syndrome (irritable colon, spastic colon, mucous colitis) and acute enterocolitis. Final classification of the less-than-effective indications requires further investigation.

Contraindications: Glaucoma, prostatic hypertrophy, benign bladder neck obstruction, hypersensitivity to chlordiazepoxide HCl and/or clidinium bromide

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants, and against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Physical and psychological dependence rarely reported on recommended doses, but use caution in administering Librax[®] (chlordiazepoxide HCl/Roche) to known addiction-prone individuals or those who might increase dosage, withdrawal symptoms (including convulsions) reported following discontinuation of the drug

Usage in Pregnancy: Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy. Advise patients to discuss therapy if they intend to or do become pregnant.

As with all anticholinergics, inhibition of lactation may occur

Precautions: In elderly and debilitated, limit dosage to smallest effective amount to preclude ataxia, oversedation, confusion (no more than 2 capsules/day initially, increase gradually as needed and tolerated). Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider pharmacology of agents, particularly potentiating drugs such as MAO inhibitors, phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions reported in psychiatric patients. Employ usual precautions in treating anxiety states with evidence of impending depression, suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation reported very rarely in patients receiving the drug and oral anticoagulants, causal relationship not established

Adverse Reactions: No side effects or manifestations not seen with either compound alone reported with Librax. When chlordiazepoxide HCl is used alone, drowsiness, ataxia, confusion may occur, especially in elderly and debilitated, avoidable in most cases by proper dosage adjustment, but also occasionally observed at lower dosage ranges. Syncope reported in a few instances. Also encountered isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent, generally controlled with dosage reduction, changes in EEG patterns may appear during and after treatment, blood dyscrasias (including agranulocytosis), jaundice, hepatic dysfunction reported occasionally with chlordiazepoxide HCl, making periodic blood counts and liver function tests advisable during protracted therapy. Adverse effects reported with Librax typical of anticholinergic agents, i.e., dryness of mouth, blurring of vision, urinary hesitancy, constipation. Constipation has occurred most often when Librax therapy is combined with other spasmolytics and/or low residue diets



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Artist's concept of myoelectrical slow waves of the colon which seem to determine the frequency of colonic motor activity.

A visible difference in myoelectric rhythms of the colon

Studies reveal an increased frequency of 3-cycles-per-minute slow wave basic electrical activity in the colons of patients with IBS—a significant difference in basic colonic rhythm patterns from normal subjects.^{1,2} These findings suggest a physiological basis for the spasm and hypermotility characteristic of IBS. The role of severe anxiety in triggering or aggravating such symptoms has long been recognized. Consequently, treatment should focus on both aspects of the problem.

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Logical, because the antimotility-antispasmodic actions of the Quarzan® (clidinium bromide/Roche) component of Librax can help to relieve the distressing abdominal symptoms associated with IBS.* Logical, because the antianxiety actions of the Librium® (chlordiazepoxide HCl/Roche) component can help to reduce the excessive anxiety that can contribute to IBS flare-ups.

References: 1. Sullivan MA, Cohen S, Snape WJ. *N Engl J Med* 298:878-883, Apr 20, 1978.
2. Snape WJ et al: *Gastroenterology* 72: 383-387, Mar 1977.

Specify **Librax**®

Each capsule contains 5 mg chlordiazepoxide HCl and 2.5 mg clidinium Br.

Antianxiety/Antisecretory/Antispasmodic

*Librax has been evaluated as possibly effective for this indication. Please see summary of prescribing information on facing page.

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Quinamm[™]

(quinine sulfate tablets)

CAUTION Federal law prohibits dispensing without prescription
BRIEF SUMMARY

INDICATIONS AND USAGE

For the prevention and treatment of nocturnal recumbency leg muscle cramps

CONTRAINDICATIONS

Quinamm may cause fetal harm when administered to a pregnant woman. Congenital malformations in the human have been reported with the use of quinine, primarily with large doses (up to 30 g) for attempted abortion. In about half of these reports the malformation was deafness related to auditory nerve hypoplasia. Among the other abnormalities reported were limb anomalies, visceral defects, and visual changes. In animal tests, teratogenic effects were found in rabbits and guinea pigs and were absent in mice, rats, dogs, and monkeys. Quinamm is contraindicated in women who are or may become pregnant. If this drug is used during pregnancy, or if the patient becomes pregnant while taking this drug, the patient should be apprised of the potential hazard to the fetus. Because of the quinine content, Quinamm is contraindicated in patients with known quinine hypersensitivity and in patients with glucose-6-phosphate dehydrogenase (G-6-PD) deficiency.

Since thrombocytopenic purpura may follow the administration of quinine in highly sensitive patients, a history of this occurrence associated with previous quinine ingestion contraindicates its further use. Recovery usually occurs following withdrawal of the medication and appropriate therapy.

This drug should not be used in patients with tinnitus or optic neuritis or in patients with a history of blackwater fever.

WARNINGS

Repeated doses or overdosage of quinine in some individuals may precipitate a cluster of symptoms referred to as cinchonism. Such symptoms, in the mildest form, include ringing in the ears, headache, nausea, and slightly disturbed vision. However, when medication is continued or after large single doses, symptoms also involve the gastrointestinal tract, the nervous and cardiovascular systems, and the skin.

Hemolysis (with the potential for hemolytic anemia) has been associated with a G-6-PD deficiency in patients taking quinine. Quinamm should be stopped immediately if evidence of hemolysis appears.

If symptoms occur, drug should be discontinued and supportive measures instituted. In case of overdosage, see OVERDOSAGE section of prescribing information.

PRECAUTIONS

General

Quinamm should be discontinued if there is any evidence of hypersensitivity (See CONTRAINDICATIONS). Cutaneous flushing, pruritus, skin rashes, fever, gastric distress, dyspnea, ringing in the ears, and visual impairment are the usual expressions of hypersensitivity, particularly if only small doses of quinine

have been taken. Extreme flushing of the skin accompanied by intense, generalized pruritus is the most common form. Hemoglobinuria and asthma from quinine are rare types of idiosyncrasy.

In patients with atrial fibrillation, the administration of quinine requires the same precautions as those for quinidine. (See Drug Interactions.)

Drug Interactions

Increased plasma levels of digoxin and digitoxin have been demonstrated in individuals after concomitant quinine administration. Because of possible similar effects from use of quinine, it is recommended that plasma levels for digoxin and digitoxin be determined for those individuals taking these drugs and Quinamm concomitantly.

Concurrent use of aluminum-containing antacids may delay or decrease absorption of quinine.

Cinchona alkaloids, including quinine, have the potential to depress the hepatic enzyme system that synthesizes the vitamin K-dependent factors. The resulting hypoprothrombinemic effect may enhance the action of warfarin and other oral anticoagulants.

The effects of neuromuscular blocking agents (particularly pancuronium, succinylcholine, and tubocurarine) may be potentiated with quinine and result in respiratory difficulties. Urinary alkalinizers (such as acetazolamide and sodium bicarbonate) may increase quinine blood levels with potential for toxicity.

Quinine Laboratory Interactions

Quinine may produce an elevated value for urinary 17-ketogenic steroids when the Zimmerman method is used.

Carcinogenesis, Mutagenesis, Impairment of Fertility

A study of quinine sulfate administered in drinking water (0.1%) to rats for periods up to 20 months showed no evidence of neoplastic changes.

Mutation studies of quinine (dihydrochloride) in male and female mice gave negative results by the micronucleus test. Intraperitoneal injections (0.5 mM/kg) were given twice, 24 hours apart. Direct *Salmonella typhimurium* tests were negative, when mammalian liver homogenate was added; positive results were found.

No information relating to the effect of quinine upon fertility in animal or in man has been found.

Pregnancy

Category X. See CONTRAINDICATIONS.

Nonteratogenic Effects

Because quinine crosses the placenta in humans, the potential for fetal effects is present. Stillbirths in mothers taking quinine have been reported in which no obvious cause for the fetal deaths was shown. Quinine in toxic amounts has been associated with abortion. Whether this action is always due to direct effect on the uterus is questionable.

Nursing Mothers

Caution should be exercised when Quinamm is given to nursing women because quinine is excreted in breast milk (in small amounts).

ADVERSE REACTIONS

The following adverse reactions have been reported with Quinamm in therapeutic or excessive dosage (individual or multiple symptoms may represent cinchonism or hypersensitivity):

Hematologic: acute hemolysis, thrombocytopenic purpura, agranulocytosis, hypoprolthrombinemia.

CNS: visual disturbances, including blurred vision with scotomata, photophobia, diplopia, diminished visual fields, and disturbed color vision; tinnitus, deafness, and vertigo; headache, nausea, vomiting, fever, apprehension, restlessness, confusion, and syncope.

Dermatologic/allergic: cutaneous rashes (urticarial, the most frequent type of allergic reaction; papular or scarlatiniform), pruritus, flushing of the skin, sweating, occasional edema of the face.

Respiratory: asthmatic symptoms.

Cardiovascular: anginal symptoms.

Gastrointestinal: nausea and vomiting (may be CNS-related), epigastric pain.

DRUG ABUSE AND DEPENDENCE

Tolerance, abuse, or dependence with Quinamm has not been reported.

OVERDOSAGE

See prescribing information for a discussion on symptoms and treatment of overdose.

DOSEAGE AND ADMINISTRATION

1 tablet upon retiring, if needed, 2 tablets may be taken nightly—1 following the evening meal and 1 upon retiring.

After several consecutive nights in which recumbency leg cramps do not occur, Quinamm may be discontinued in order to determine whether continued therapy is needed.

Product Information as of October, 1980

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Editorials

HAUNTED SLEEP

*"Would man but wake from his haunted sleep,
Earth might be fair and all men glad and wise"*

Clifford Bax 1886-1962

Although the eminent Viennese theorist and psychiatrist, Sigmund Freud, preempted the dream world for psychoanalysis, it has refused to be confined. In recent years it has been recaptured by sleep of which it is certainly an essential part and subjected to rather more careful and less doctrinaire scrutiny, as Blazer's case report (p. 781) and Walker's review (p. 783) starting in this issue of the Journal indicate.

Freud could not really have expected his rather outlandish claims for the supremacy of the dream world to have endured. Too many people and too many cultures have wondered about the meaning of fantasies in sleep for even such a vigorous assertion as his to have become our lodestone. Prometheus among his sins against Zeus allowed mankind the pleasure of the divination of dreams and Joseph forever entered the collective imagination as an interpreter of dreams. There is an epic quality about the mystery of dreaming for it to have resisted explanation for so long and to continue in its inscrutability.

As the quotation cited above from a Protestant hymn reveals, even our waking hours may have something of the quality of dreams or perhaps more aptly nightmares. When day becomes dark, the future glowers and we can perhaps understand why in ancient times nightmares were attributed to the infestation of the soul by incubi, to the incubation of the spirit by devils, demons, witches and werewolves. Coleridge, de Quincy and even Carl Sagan¹ and *Newsweek* (July 13, 1981) have been concerned about sleep and dreams and the history of nightmares has been ably and learnedly reviewed by John Mack.² So we do not lack for source material if we are challenged to figure out what our own nocturnal visions mean.

More practically we are now in a position to help, not laugh at, the unhappy snorers and the hypersomnolent misers who are really not falling asleep to escape reality. The reality of obstructive sleep apnea (OSA), for example, can be borne more easily while awake. Take the obese lawyer who falls asleep in mid-plea, to the consternation of the judge, the confusion of the jury and the horror of his client or the driver who awakens to find he has injured himself and destroyed his car. And this is a problem with males who are much more likely to experience nocturnal oxygen desaturation with their much more frequent episodes

of apnea.³ If women have sleep apnea at all, it is infrequent and almost always postmenopausal. Perhaps some women with progesterone deficiencies related to anovulatory menses might have difficulty since they would lack the pregnancy hormone which is, among other things, a respiratory stimulant.

These sex differences would not be expected before menarche when patients with OSA would be more likely to have hypertrophied tonsils and adenoids or micrognathia. Still Wilkinson and collaborators prompted to seek evidence of pulmonary hypertension among snoring children found three afflicted, all males, among 92 studied.⁴ Their abnormalities improved strikingly after tonsillectomy and adenoidectomy. Obstructive sleep apnea has also been described in association with hypertrophied tonsils in adults. Snoring diminished and upper airway obstruction was almost completely relieved after tonsils were excised.⁵ Guilleminault and his associates⁶ have recently presented their experience with 50 patients, 49 male, with tracheostomy in the treatment of OSA and have observed that most patients, once they have overcome the psychic trauma of the permanent stoma, can return to full activity.

The syndrome of OSA should also be sought in patients with myxedema who may be poor historians with memories as sluggish as their deep tendon reflexes.^{7,8} They may also present with a variety of psychiatric syndromes which usually clear with adequate replacement therapy — l-thyroxine.^{7,8}

The influence of pain on sleep, the role of endorphins in ventilatory control, the effects of naloxone on respiratory compensation in chronic obstructive pulmonary disease⁹ and the possibility that endogenous opioids may be involved in the pathogenesis of sudden infant death syndrome¹⁰ serve to remind us that sleep indeed may be haunted and that some of the demons of the mind can be exorcised medically or surgically.

J.H.F.

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Enthusiasm for one's state must stop short of chauvinism, else we would be accused of having little judgment. So we note with some sadness that North Carolina again leads the nation in the incidence of Rocky Mountain spotted fever (RMSF). In 1980, 321 of the 1,156 cases of RMSF (28%) reported to the Centers for Disease Control came from this state; our incidence was 5.46/100,000 population.¹

We trail only Alaska and Mississippi in the incidence of tuberculosis despite our vigorous efforts, recently reviewed in these pages.² Our case rate per 100,000 population in 1980 was 18.1, putting us in a virtual tie with prosperous California for third among our 50 states.³ The District of Columbia, not counted as a state, has a clear lead with 53.5. One-thousand sixty-six cases in this state in 1980 should again remind us that the white plague is as always inscrutable in its ways and mysterious in its manifestations.

Another nearly vanquished villain, "epidemic" typhus, has recently emerged from oblivion in Virginia, West Virginia and North Carolina.⁴ The reservoir for *Rickettsia prowazekii* in this resurgence appears to be the southern flying squirrel (*Glaucomys volans*). As with RMSF, headache, fever, myalgias and exanthems are characteristic presenting symptoms. Three of the seven cases recently reported were found in the Old North State and all survived.

J.H.F.

References

1. MMWR 30:318-320, 1981.
2. NC Med J 42:184-185, 1981.
3. MMWR 30:325-326, 1981.

"CLONING COMMITTEES"

According to *Nature* (October 16, 1980), the esteemed British scientific weekly, Sweden is having much trouble regulating hybrid-DNA research. Since January 1, 1980, investigators in the field have had to seek permission under two laws, one applicable to occupational health and safety and the other to environmental protection. The agencies administering these laws are advised jointly by a committee composed of 17 members representing science, government, the unions, industry and employers.

The procedure then becomes more complex since the Franchise Board for Environmental Protection (FBEP) must circulate applications through 14 other groups for comments. Then a public meeting is held before a decision can be reached. Scientists apparently have not been adequately informed about proper procedures and often continue their research or initiate it in lieu of bureaucratic approval, else it might never get done. One company asked to be allowed to produce genes for the production of human growth hormone and other factors, only to have conflicting specifications offered by the separate bodies.

Nature entitled its article about the Swedish problem "Cloning Committees." We have enough of these already and all ready without cloning. Swedish investigators undoubtedly would accept a new clone, however, if it could elaborate committees with enough hybrid vigor to relieve bureaucratic constipation.

J.H.F.

Phosphorus taken in poisonous doses causes, among other results, changes in the urine characteristic of renal inflammation. Several instances have been collected by M. Ollivier . . . which show that under this influence the secretion becomes highly albuminous, and sometimes contains blood and fibrinous casts. The kidneys are found, after the comparatively rapid death which ensues under the poison, to be swollen and congested, the epithelium fatty, and the cortical tubes obstructed. Many other organs and tissues share in the quick fatty metamorphosis which is caused by this deadly distilment; death ensues usually from other than renal disturbance, and I cannot ascertain that save in the urinary changes the disorder of the kidneys is attended by noticeable symptoms. The urinary changes, however, and the condition of the organ itself, are most characteristic of intense tubal nephritis. — Dickinson WH. *A Treatise on Albuminuria*. 2nd ed. New York: William Wood & Company, 1881.

Bulletin Board

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Stark, Meritt William, (PD) 111 Walnut Creek Drive, Goldsboro 27530

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WHAT? WHEN? WHERE? In Continuing Education

Please note: 1. The Continuing Medical Education Programs at Bowman Gray, Duke, East Carolina and UNC Schools of Medicine, Dorothea Dix, and Burroughs Wellcome Company are accredited by the American Medical Association. Therefore CME programs sponsored or cosponsored by these schools automatically qualify for AMA Category I credit toward the AMA's Physician Recognition Award, and for North Carolina Medical Society Category A credit. Where AAFP credit has been requested or obtained, this also is indicated.

2. The "place" and "sponsor" are indicated for a program only when these differ from the place and source to write "for information."

November 11

"Childhood Behavioral Problems"

Place: Pitt County Memorial Hospital Auditorium, Greenville, N.C.

Fee: \$25

Credit: 3 hours, AAFP applied for

For Information: F. M. Simmons Patterson, M.D., Assistant Dean for Continuing Medical Education, East Carolina University School of Medicine, Greenville, N.C. 27834

CYCLAPEN®-W (cyclacillin)

Indications

Cyclacillin has less *in vitro* activity than other drugs in the ampicillin class and its use should be confined to these indications. Treatment of the following infections:

RESPIRATORY TRACT

Tonsillitis and pharyngitis caused by Group A beta-hemolytic streptococci

Bronchitis and pneumonia caused by *S. pneumoniae* (formerly *D. pneumoniae*)

Otitis media caused by *S. pneumoniae* (formerly *D. pneumoniae*) and *H. influenzae*

Acute exacerbation of chronic bronchitis caused by *H. influenzae**

*Though clinical improvement has been shown, bacteriologic cures cannot be expected in all patients with chronic respiratory disease due to *H. influenzae*.

SKIN AND SKIN STRUCTURES (integumentary) infections caused by Group A beta-hemolytic streptococci and staphylococci, non-penicillinase producers.

URINARY TRACT INFECTIONS caused by *E. coli* and *P. mirabilis*. (This drug should not be used in any *E. coli* and *P. mirabilis* infections other than urinary tract.)

NOTE: Perform cultures and susceptibility tests initially and during treatment to monitor effectiveness of therapy and susceptibility of bacteria. Therapy may be instituted prior to results of sensitivity testing.

Contraindications Contraindicated in individuals with history of an allergic reaction to penicillins.

Warnings Cyclacillin should only be prescribed for the indications listed herein.

Cyclacillin has less *in vitro* activity than other drugs of the ampicillin class. However, clinical trials demonstrated it is efficacious for recommended indications.

Serious and occasional fatal hypersensitivity (anaphylactoid) reactions have been reported in patients on penicillin. Although anaphylaxis is more frequent following parenteral use, it has occurred in patients on oral penicillins. These reactions are more apt to occur in individuals with history of sensitivity to multiple allergens. There are reports of patients with history of penicillin hypersensitivity reactions who experienced severe hypersensitivity reactions when treated with a cephalosporin. Before penicillin therapy, carefully inquire about previous hypersensitivity reactions to penicillins, cephalosporins and other allergens. If allergic reaction occurs, discontinue drug and initiate appropriate therapy. Serious anaphylactoid reactions require immediate emergency treatment with epinephrine. Oxygen, I.V. steroids, airway management, including intubation, should also be administered as indicated.

Precautions Prolonged use of antibiotics may promote overgrowth of nonsusceptible organisms. If superinfection occurs, take appropriate measures.

PREGNANCY. Pregnancy Category B. Reproduction studies performed in mice and rats at doses up to 10 times the human dose revealed no evidence of impaired fertility or harm to the fetus due to cyclacillin. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, use this drug during pregnancy only if clearly needed.

NURSING MOTHERS. It is not known whether this drug is excreted in human milk. Because many drugs are, exercise caution when cyclacillin is given to a nursing woman.

Adverse Reactions Oral cyclacillin is generally well tolerated. As with other penicillins, untoward sensitivity reactions are likely, particularly in those who previously demonstrated penicillin hypersensitivity or with history of allergy, asthma, hay fever, or urticaria. Adverse reactions reported with cyclacillin: diarrhea (in approximately 1 out of 20 patients treated), nausea and vomiting (in approximately 1 in 50), and skin rash (in approximately 1 in 60). Isolated instances of headache, dizziness, abdominal pain, vaginitis, and urticaria have been reported (See WARNINGS). Other less frequent adverse reactions which may occur and are reported with other penicillins are anemia, thrombocytopenia, thrombocytopenic purpura, leukopenia, neutropenia and eosinophilia. These reactions are usually reversible on discontinuation of therapy.

As with other semisynthetic penicillins, SGOT elevations have been reported.

As with antibiotic therapy generally, continue treatment at least 48 to 72 hours after patient becomes asymptomatic or until bacterial eradication is evidenced. In Group A beta-hemolytic streptococcal infections, at least 10 days' treatment is recommended to guard against risk of rheumatic fever or glomerulonephritis. In chronic urinary tract infection, frequent bacteriologic and clinical appraisal is necessary during therapy and possibly for several months after. Persistent infection may require treatment for several weeks.

Cyclacillin is not indicated in children under 2 months of age.

Patients with Renal Failure. Cyclacillin may be safely administered to patients with reduced renal function. Due to prolonged serum half-life, patients with various degrees of renal impairment may require change in dosage level (see DOSAGE AND ADMINISTRATION in package insert).

Dosage (Give in equally spaced doses)

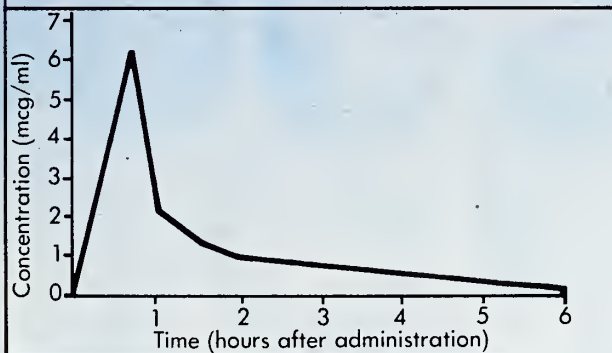
| INFECTION | ADULTS | CHILDREN* |
|-----------------------------|-------------------------|--|
| Respiratory Tract | | |
| Tonsillitis & Pharyngitis | 250 mg q.i.d. | body weight < 20 kg (44 lbs) 125 mg q.i.d. body weight > 20 kg (44 lbs) 250 mg q.i.d. |
| Bronchitis and Pneumonia | | |
| Mild or Moderate Infections | 250 mg q.i.d. | 50 mg/kg/day q.i.d. |
| Chronic Infections | 500 mg q.i.d. | 100 mg/kg/day q.i.d. |
| Otitis Media | 250 mg to 500 mg q.i.d. | 50 to 100 mg/kg/day† |
| Skin & Skin Structures | 250 mg to 500 mg q.i.d. | 50 to 100 mg/kg/day† |
| Urinary Tract | 500 mg q.i.d. | 100 mg/kg/day |

*Dosage should not result in a dose higher than that for adults †depending on severity

Half the dose
is absorbed in 9 minutes!
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Mean blood levels in mcg/ml after 250 mg cyclacillin single oral dose



- Rapid, virtually complete absorption from GI tract
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- Rapidly excreted unchanged in urine – 1½ times faster than ampicillin

*Based on $T^{1/2}$ values for single oral doses of 500 mg cyclacillin tablet and 500 mg ampicillin capsule. Data on file, Wyeth Laboratories.

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Fewer episodes of diarrhea and rash than with ampicillin in studies to date.

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See important information on facing page.

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**NEW
NAME**

November 18

"Clotting and Bleeding Disorders"

Place: Central Carolina Hospital

Fee: \$12

Credit: 3½ hours

For Information: Robert S. Cline, M.D., Central Carolina Hospital, 1135 Carthage Street, Sanford, N.C. (919) 774-4100 ext. 394.

November 20-23

"Multiple Sclerosis for Practicing Physicians"

Place: Duke University Medical School

Credit: 9 hours

Fee: \$10

For Information: Allen D. Roses, M.D. 919-683-6274

December 4-6

"Drug Management of Childhood Behavior Disorders"

Place: Hotel Europa, Chapel Hill

Fee: \$150

Credit: 15½ hours, AAFP applied for

For Information: William Wood, M.D., Office of Continuing Education, UNC School of Medicine, Chapel Hill, N.C. 27514, 919-962-2118

December 9

"Infections in Obstetrics and Gynecology"

Place: Pitt County Memorial Hospital Auditorium, Greenville, N.C.

Fee: \$50

Credit: 7 hours, AAFP applied for

For Information: F. M. Simmons Patterson, M.D., Assistant Dean for Continuing Medical Education, East Carolina University School of Medicine, Greenville, N.C. 27834

January 13

"Laboratory Diagnosis of Endocrine Diseases"

Place: Pitt County Memorial Auditorium, Greenville, N.C.

Fee: \$50

Credit: 7 hours, AAFP applied for

For Information: F. M. Simmons Patterson, M.D., Assistant Dean for Continuing Medical Education, East Carolina University School of Medicine, Greenville, N.C. 27834

January 20

"Physician Health and Effectiveness — The Impaired Physician"

Place: Central Carolina Hospital

Fee: \$12

Credit: 2 hours

For Information: Robert S. Cline, M.D., 1135 Carthage Street, Sanford, N.C. 27330, 919-774-4100, ext. 394.

January 22-23

"Clinical Urology"

Place: Bowman Gray School of Medicine

Fee: \$100

Credit: 3 hours

For Information: Emery C. Miller, M.D., Assoc. Dean for Continuing Education, Bowman Gray School of Medicine, 300 S. Hawthorne Road, Winston-Salem, N.C., 27103, 919-748-4450.

January 23

"Third Annual Pulmonary Disease Update: (A Breath of Spring)"

Place: Pitt County Memorial Hospital Auditorium, Greenville, N.C.

Fee: \$50

Credit: 6 hours, AAFP applied for

For Information: F. M. Simmons Patterson, M.D., Assistant Dean for Continuing Medical Education, East Carolina University School of Medicine, Greenville, N.C. 27834

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IN CONTIGUOUS STATES

November 15-18

"75th Annual Southern Medical Association Meeting"

Place: New Orleans, Louisiana

For Information: Milton S. Good, M.D., 610 Highlawn Ave.,
Elizabethtown, Pa., 17022

November 16-17

"Eighth Annual Newborn Seminar — Perinatal Infections"

Place: Greenville, South Carolina

For Information: Department of Neonatology, Division of Medical
Education, Greenville Hospital System, 701 Grove Road, Green-
ville, S.C.

January 21-23

"S. C. Chapter of ACS — Annual Surgical Symposium"

Place: Charleston, S.C.

For Information: South Carolina Chapter of the American College
of Surgeons.

The items listed in the above column are for the three months
immediately following the month of publication. Requests for listing
should be received by "WHAT? WHEN? WHERE?", P.O. Box
27167, Raleigh, 27611, by the first of the month two months prior to
the month in which they are to appear. A "request for listing" form
is available upon request.

AUXILIARY TO THE NORTH CAROLINA MEDICAL SOCIETY

OVERLOOKED RESOURCES?

Physicians and their families receive an abundant
amount of mail, much of which is addressed to the
office and summarily discarded as "advertising" or
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professional mail, it is possible to miss something of
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I want to bring to your attention printed resources
that I have requested by mail and have found informa-
tive and helpful. There are three recently published
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itary's "Shape Up for Life Campaign." The stress management focus is an addition to the physical fitness and nutrition emphases of the past two years.

The Family of the Impaired Physician offers suggestions for educational materials and support groups for the spouse and family of the impaired physician.

The Physician's Marriage: Joys and Sorrows is a reprint from FACETS, the AMA Auxiliary's magazine for physicians' spouses. Four articles which were adapted from a panel presentation at the 1978 AMA Auxiliary Convention and printed in separate issues of FACETS have been bound together.

The Texas Medical Association has published a 46 page booklet FAITH OF OUR PATIENTS which focuses on "recognition of religious beliefs and their value in the healing process." Fourteen ethical issues and/or problem areas are identified and fifteen religious denominations have responded to these issues. This resource is a most interesting compilation of their responses. It is available for \$2 from the Texas Medical Association, 1801 North Lamar, Austin, Texas 78701.

One intriguing resource that I have not yet requested (pure inertia) is a "Shape Up for Life" record and exercise-to-music program produced by the Butte-Glenn County AMA Auxiliary in California. It can be obtained by writing Mrs. A. E. Warrens, 2190 North Avenue, Chico, California 95926.

ANITA D. TAYLOR
Winston-Salem, N.C.

News Notes from the

DUKE UNIVERSITY MEDICAL CENTER

Dr. Patrick A. McKee, professor of medicine, has been named to serve on an expert Advisory Panel of the United States Pharmacopeial Convention (USP). The USP is a nonprofit organization of health professionals. McKee and other members of the committee are considered experts in the field of cardiovascular drugs.

* * *

Duke professor and chief of the division of gastroenterology, Dr. Malcolm P. Tyor, was elected president of the American Gastroenterological Association.

* * *

One hundred and fourteen physicians from as far away as Texas attended Duke's 23rd Morehead Symposium July 13-17 at Bogue Banks County Club. The conference presentations covered a broad spectrum of topics of interest to the general practitioner.

Duke faculty who gave presentations included Dr. Harry Gallis, director of continuing medical education; Dr. John T. Garbutt, associate professor in the division of gastroenterology; Dr. Gary N. Foulks, assistant professor of ophthalmology; Dr. James E. Lowe, assistant professor anesthesiology and surgery.

Other presenters were Dr. Edward W. Massey, assistant professor of neurology; Dr. John R. Rice, assistant professor in the division of rheumatic and genetic diseases; Dr. Robert J. Ruderman, assistant professor of orthopaedic surgery and pediatrics; and Dr. John R. Steege, assistant professor of obstetrics and gynecology. Dr. William G. Anlyan, vice president of health affairs, delivered opening remarks.

Topic of presentations included "Toxic Shock Syndrome," "Red Eye," "Sexual Dysfunction," and "Raynaud's Phenomenon."

* * *

Andrew S. Wechsler, professor in the division of general and thoracic surgery and assistant professor of physiology, was awarded a research grant for \$154,979 from the National Heart, Lung and Blood Institute. Wechsler's area of research is "Surgical Heart Bypass: Physiology of Cardiac Injury."

* * *

Samson R. Gross, professor in the Department of Biochemistry, received a \$84,618 research grant from the National Institute of General Medical Science to study "Regulatory Mechanisms of Enzyme Synthesis in Neurospora."

* * *

Wolfgang K. Joklik, professor and chairman of the Department of Microbiology and Immunology, was awarded a national research service award for \$226,460 from the National Cancer Institute to study viral oncology.

* * *

Janice G. McFarland, in the Department of Medicine, received a national research service award of \$17,236 from the National Heart, Lung and Blood Institute. MacFarland's area of training is blood resources.

* * *

Randy L. Jirtle, assistant professor in the division of radiology, received a \$60,083 research grant from the National Cancer Institute to study "Microwaves, Hyperthermia and Tumor Circulation."

* * *

Theodore A. Slotkin, professor in the Department of Pharmacology, received a research grant for \$51,894 from the National Heart, Lung and Blood Institute. Slotkin's grant is titled "Develop Cardiovascular Regulation/Center/Sympathetic NS."

For your patients' benefit...

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\$1.50 REBATE DIRECT TO YOUR PATIENTS ON EVERY PRESCRIPTION OF 100. REFILLS INCLUDED.

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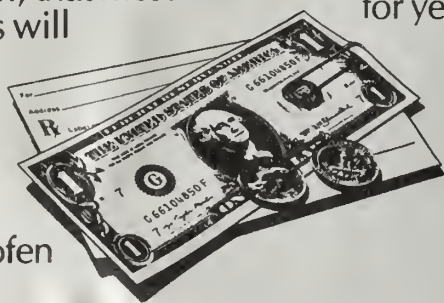
Every bottle of 100 tablets of RUFEN 400 mg has a Rebate Coupon attached, with full instructions for redemption.

It has already been determined, through public opinion research, that most arthritic patients will

appreciate direct rebate savings as much as they appreciate the results of ibuprofen therapy.

AND RUFEN IS PRICED LOWER TO BEGIN WITH.

Boots has already priced RUFEN lower to the wholesaler and the retailer. And if these savings are passed along, as they should be, your patient will receive the benefit of this lower price. Add these savings to the rebate, and your patients receive substantial relief from the costs of a medication many of them may take for years.



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And if you wish, RUFEN may be substituted for Motrin[®], because it is bioequivalent.*

Original research by The Boots Company Ltd., of Nottingham, England, developed ibuprofen.

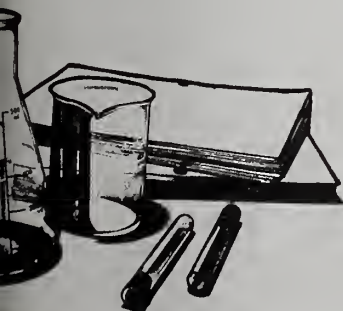
And though we introduced it ourselves elsewhere around the world, we have licensed ibuprofen for sale in the United States.

ARTHRITIC PATIENTS SUPROFEN THERAPY.

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**OEQUIVALENCY?
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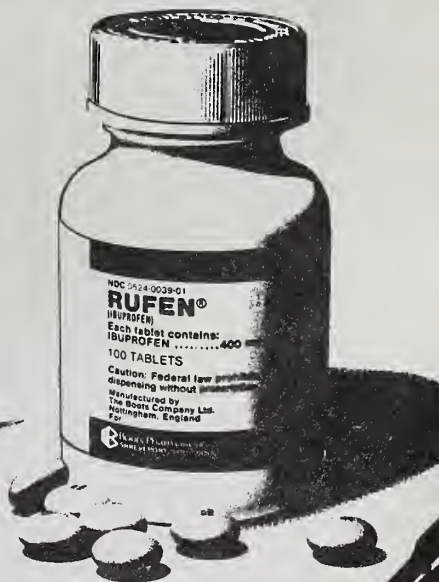
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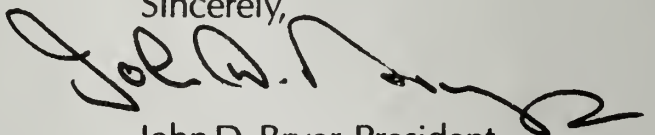
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RUFEN® Tablets (ibuprofen)

INDICATIONS AND USAGE: Treatment of signs and symptoms of rheumatoid arthritis and osteoarthritis during acute flares and in the long-term management of these diseases. Safety and effectiveness have been established for Functional Class IV rheumatoid arthritis.

Relief of mild to moderate pain.

CONTRAINDICATIONS: Patients hypersensitive to ibuprofen, or with the syndrome of nasal polyps, angioedema and bronchospastic reactivity to aspirin or other nonsteroidal anti-inflammatory drugs (see **WARNINGS**).

WARNINGS: Anaphylactoid reactions have occurred in patients hypersensitive to aspirin (see **CONTRAINDICATIONS**). Peptic ulceration and gastrointestinal bleeding, sometimes severe, have been reported. Peptic ulceration and gastrointestinal bleeding can end fatally, however, an association has not been established. Rufen should be given under close supervision to patients with a history of upper gastrointestinal tract disease and only after consulting the **ADVERSE REACTIONS**.

In patients with active peptic ulcer and active rheumatoid arthritis, nonulcerogenic drugs, such as gastric acid suppressants, should be attempted. If Rufen must be given, the patient should be under close supervision for signs of ulceration or gastrointestinal bleeding.

PRECAUTIONS: Blurred and/or diminished vision, scotomata, and/or changes in color vision have been reported. If developed, discontinue Rufen and administer an ophthalmologic examination.

Fluid retention and edema have been associated with Rufen; caution should be used in patients with a history of cardiac decompensation.

Rufen can inhibit platelet aggregation and prolong bleeding time. Use with caution in patients with intrinsic coagulation defects and those taking anticoagulants.

Patients should report signs or symptoms of gastrointestinal ulceration or bleeding, blurred vision or other eye symptoms, skin rash, weight gain or edema.

To avoid exacerbation of disease or adrenal insufficiency, patients on prolonged corticosteroid therapy should be tapered slowly when adding Rufen.

DRUG INTERACTION: Coumarin-type anticoagulants. The physician should be cautious when administering Rufen to patients on anticoagulants.

Aspirin. Concomitant use may decrease Rufen blood levels.

PREGNANCY AND NURSING MOTHERS: Rufen should not be taken during pregnancy nor by nursing mothers.

ADVERSE REACTIONS

Incidence greater than 1%

Gastrointestinal: The most frequent adverse reaction is gastrointestinal (4% to 6%). Includes nausea*, epigastric pain*, heartburn*, diarrhea, abdominal distention, nausea and vomiting, indigestion, constipation, abdominal cramps or pain, fullness of GI tract (bloating or flatulence). **Central Nervous System:** dizziness*, headache, nervousness. **Dermatologic:** rash* (including maculopapular type), pruritus. **Special Senses:** tinnitus. **Metabolic:** decreased appetite, edema, fluid retention. Fluid retention generally responds promptly to discontinuation (see **PRECAUTIONS**).

*Incidence 3% to 9%.

Incidence less than 1 in 100

Gastrointestinal: gastric or duodenal ulcer with bleeding and/or perforation, hemorrhage, melena. **Central Nervous System:** depression, insomnia. **Dermatologic:** allergic vesiculobullous eruptions, urticaria, erythema multiforme. **Special Senses:** amblyopia (see **PRECAUTIONS**). **Hematologic:** leukopenia, decreased hemoglobin and hematocrit. **Cardiovascular:** congestive heart failure in patients with marginal cardiac function, elevated blood pressure.

Causal relationship unknown

Gastrointestinal: Hepatitis, jaundice, abnormal liver function. **Central Nervous System:** paresthesias, hallucinations, dream abnormalities. **Dermatologic:** alopecia, Stevens-Johnson syndrome. **Special Senses:** Conjunctivitis, diplopia, optic neuritis. **Hematologic:** hemolytic anemia, thrombocytopenia, granulocytopenia, bleeding episodes. **Allergic:** fever, serum sickness, lupus erythematosus syndrome. **Endocrine:** gynecostasia, hypoglycemia. **Cardiovascular:** arrhythmias (Sinus tachycardia, bradycardia, and palpitation). **Renal:** decreased creatinine clearance, polyuria, azotemia.

OVERDOSAGE: Acute overdosage, the stomach should be emptied. Rufen is acidic and excreted in the urine; alkaline diuresis may benefit.

DOSEAGE AND ADMINISTRATION: Rheumatoid arthritis and osteoarthritis, including flares of chronic disease: Suggested dosage 400 mg t.i.d. or q.i.d.

Mild to moderate pain: 400 mg every 4 to 6 hours as necessary for relief of pain. Do not exceed 2,400 mg per day.

CAUTION: Federal law prohibits dispensing without prescription.

Boots Pharmaceuticals, Inc.
Shreveport, Louisiana 71106

Dr. Martin Ehrenberg, in the Department of Ophthalmology, received a \$6,500 grant from the North Carolina affiliate of the National Society to Prevent Blindness, Inc. Ehrenberg's study is "Blood Toxicity to the Retina — Analysis of Vitrectomy Biopsies."

* * *

Rebecca H. Buckley, J. B. Sidbury Professor of pediatrics and professor of microbiology and immunology, was awarded a \$65,528 national research

service award from the National Institute of Allergy and Infectious Diseases. Buckley is studying allergy and clinical immunology.

* * *

William S. Lynn, professor in the division of pulmonary medicine and associate professor of biochemistry, was awarded a \$139,236 national research service award from the National Institute of Environmental Health Sciences. The award is for "Environment and the Lungs: Toxins and Mediators."

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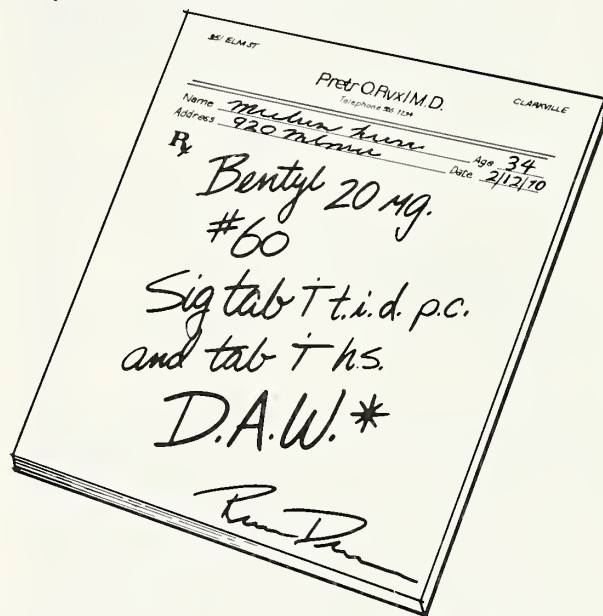


...in the functional bowel/irritable bowel syndrome*

be sure to specify

Bentyl[®]
(dicyclomine hydrochloride USP)

10 mg capsules, 20 mg tablets,
10 mg/5 ml syrup, 10 mg/ml injection



**D.A.W.-Dispense as written*

because:

- ⊕ The Bentyl molecule is a product of original Merrell research.
- ⊕ At Merrell Dow, Bentyl must go through 140 checkpoints/tests from its synthesis through the packaging of the final product.
- ⊕ Bentyl bioavailability of tablets, capsules, syrup and injectable is evidence of its prompt absorption.
- ⊕ Bentyl helps control abnormal gastrointestinal motor activity with minimal anticholinergic side effects. (See Warnings, Contraindications, Precautions, and Adverse Reactions on next page.)
- ⊕ The bioequivalence of the oral dosage forms permits a choice of tablet, capsules, or syrup that satisfies patient's dosage preferences.
- ⊕ Significant pharmacologic effect in the distal colon compared to placebo,¹ shows how Bentyl controls abnormal motor activity in the irritable colon patient.*

*This drug has been classified "probably" effective for this indication.

Merrell Dow

Reference:

1. Chowdhury AR and Lorber SH: Personal communication, 1980.

(See Product Information on the next page before prescribing Bentyl.)

Although the dose of Bentyl used to show pharmacologic effect was 50 mg, which is a higher single dose than that permitted in the labeling, the dose was considered justified, since the recommended daily dose of injectable Bentyl is 20 mg (2 ml) every 4 to 6 hours. Thus, in 8 hours, a patient could receive a total of 60 mg I.M. and, at that time, as a result of the sustained plasma levels from the 20 mg injections at 0 and 4 hours, might show an even higher plasma level than occurs after a single 50 mg dose. Presumably, the same pharmacologic effect would follow. These observations do not constitute evidence of efficacy.

Bentyl[®]

(dicyclomine hydrochloride USP)

Capsules, Tablets, Syrup, Injection

AVAILABLE ONLY ON PRESCRIPTION

Brief Summary

INDICATIONS

Based on a review of this drug by the National Academy of Sciences-National Research Council and/or other information, FDA has classified the following indications as "probably" effective

For the treatment of functional bowel/irritable bowel syndrome (irritable colon, spastic colon, mucous colitis) and acute enterocolitis

THESE FUNCTIONAL DISORDERS ARE OFTEN RELIEVED BY VARYING COMBINATIONS OF SEDATIVE, REASSURANCE, PHYSICIAN INTEREST, AMELIORATION OF ENVIRONMENTAL FACTORS

For use in the treatment of infant colic (syrup)

Final classification of the less-than-effective indications requires further investigation

CONTRAINDICATIONS: Obstructive uropathy (for example, bladder neck obstruction due to prostatic hypertrophy), obstructive disease of the gastrointestinal tract (as in achalasia, pyloroduodenal stenosis), paralytic ileus, intestinal atony of the elderly or debilitated patient, unstable cardiovascular status in acute hemorrhage, severe ulcerative colitis, toxic megacolon complicating ulcerative colitis, myasthenia gravis

WARNINGS: In the presence of a high environmental temperature, heat prostration can occur with drug use (fever and heat stroke due to decreased sweating). Diarrhea may be an early symptom of incomplete intestinal obstruction, especially in patients with ileostomy or colostomy. In this instance treatment with this drug would be inappropriate and possibly harmful. Bentyl may produce drowsiness or blurred vision. In this event, the patient should be warned not to engage in activities requiring mental alertness such as operating a motor vehicle or other machinery or perform hazardous work while taking this drug. There are rare reports of infants, 6 weeks of age and under, administered dicyclomine hydrochloride syrup, who have evidenced respiratory symptoms (breathing difficulty, shortness of breath, breathlessness, respiratory collapse, apnea), as well as seizures, syncope, asphyxia, pulse rate fluctuations, muscular hypotonia, and coma. The above symptoms have occurred within minutes of ingestion and lasted 20 to 30 minutes. The timing and nature of the reactions suggest that they were a consequence of local irritation and/or aspiration rather than a direct pharmacologic effect. No known deaths or permanent adverse effects have been reported. Bentyl syrup should be used with caution in this age group.

PRECAUTIONS: Although studies have failed to demonstrate adverse effects of dicyclomine hydrochloride in glaucoma or in patients with prostatic hypertrophy, it should be prescribed with caution in patients known to have or suspected of having glaucoma or prostatic hypertrophy.

Use with caution in patients with:

Autonomic neuropathy. Hepatic or renal disease. Ulcerative colitis. Large doses may suppress intestinal motility to the point of producing a paralytic ileus and the use of this drug may precipitate or aggravate the serious complication of toxic megacolon.

Hyperthyroidism, coronary heart disease, congestive heart failure, cardiac arrhythmias, and hypertension.

Hiatal hernia associated with reflux esophagitis since anticholinergic drugs may aggravate this condition.

Do not rely on the use of the drug in the presence of complication of biliary tract disease. Investigate any tachycardia before giving anticholinergic (atropine-like) drugs since they may increase the heart rate. With overdosage, a curare-like action may occur.

ADVERSE REACTIONS: Anticholinergics/antispasmodics produce certain effects which may be physiologic or toxic depending upon the individual patient's response. The physician must delineate these. Adverse reactions may include xerostomia, urinary hesitancy and retention, blurred vision and tachycardia, palpitations, mydriasis, cycloplegia, increased ocular tension, loss of taste, headache, nervousness, drowsiness, weakness, dizziness, insomnia, nausea, vomiting, impotence, suppression of lactation, constipation, bloated feeling, severe allergic reaction or drug idiosyncrasies including anaphylaxis; urticaria and other dermal manifestations, some degree of mental confusion and/or excitement, especially in elderly persons, and decreased sweating. With the injectable form there may be a temporary sensation of light-headedness and occasionally local irritation.

DOSAGE AND ADMINISTRATION: Dosage must be adjusted to individual patient's needs.

Usual Dosage

Bentyl 10 mg. capsule and syrup. **Adults:** 1 or 2 capsules or teaspoonfuls syrup three or four times daily. **Children:** 1 capsule or teaspoonful syrup three or four times daily. **Infants:** ½ teaspoonful syrup three or four times daily. (Dilute with equal volume of water.)

Bentyl 20 mg. **Adults:** 1 tablet three or four times daily.

Bentyl Injection. **Adults:** 2 ml (20 mg.) every four to six hours intramuscularly only.

NOT FOR INTRAVENOUS USE

MANAGEMENT OF OVERDOSE: The signs and symptoms of overdose are headache, nausea, vomiting, blurred vision, dilated pupils, hot, dry skin, dizziness, dryness of the mouth, difficulty in swallowing, CNS stimulation. Treatment should consist of gastric lavage, emetics, and activated charcoal. Barbiturates may be used either orally or intramuscularly for sedation but they should not be used if Bentyl with Phenobarbital has been ingested. If indicated, parenteral cholinergic agents such as Urecholine[®] (bethanechol chloride USP) should be used.

Product Information as of July, 1980

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Swiftwater, Pennsylvania 18370

TAYLOR PHARMACAL COMPANY

Decatur, Illinois 62525 for

Merrell

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Subsidiary of The Dow Chemical Company

Cincinnati, OH 45215 U.S.A.

Gail R. Marsh, associate professor in the division of medical psychology, received a research grant for \$60,232 from the National Institute of Neurological and Communicative Disorders and Stroke to study "Electrophysiological Studies in Cognitive Psychology."

* * *

Frank W. Clippinger, director of Rehabilitation Services and professor in the division of orthopaedic surgery, was awarded a \$128,453 grant from the National Cancer Institute. The title of his project is "Sensory Feedback Leg Prosthesis for Cancer Patients."

* * *

Dennis B. Amos, professor of immunology and experimental surgery, was awarded a \$74,579 research grant from the National Cancer Institute to support his project, "Cellular Immunity and Regulatory Factors in Cancer."

* * *

Bruce D. Schirmer, in the Department of Surgery, received a \$19,736 national research service award from the National Institute of Arthritis, Metabolism and Digestive Diseases.

News Notes from the

BOWMAN GRAY SCHOOL OF MEDICINE WAKE FOREST UNIVERSITY

The Bowman Gray/Baptist Hospital Medical Center has dedicated its two newest buildings and celebrated its 40th anniversary in a day-long event which included a visit by the vice president of the United States.

The dedication of the center's Family Practice Building and its Focus Building occurred during the afternoon of Sept. 14 before several hundred guests in Bowman Gray's Babcock Auditorium.

Among those who participated in the dedication ceremonies were Dr. A. Esmat Abdel Meguid, the Egyptian ambassador to the United Nations; and the Honorable Gordon Gray, a former secretary of the Army and former president of the University of North Carolina.

Meguid told the audience that by inviting to the dedication a representative of Egyptian President Anwar Sadat "you are also paying tribute to his message of peace and to our people."

He told the audience that the medical center as an expression of one way humanity can act to promote peace and provide for the well-being of people around the world.

Bowman Gray has a long-standing cooperative re-

lationship with the government of Egypt and Cairo University in studies of neurologic problems, especially stroke. That was one of the principal reasons for the presence of Ambassador Meguid.

The ambassador also said, "Peace in our view is not only the end of hostilities, the end of shooting each other, but essentially bringing people together in a spirit of understanding and cooperation. We should try to help each other, love each other. That is your message that we are celebrating with you today."

Gray recounted much of the history of the medical school after its move to Winston-Salem in 1941 and its expansion to a four-year program. "The new venture had very modest beginnings," he said. And he added that many doubted it would survive.

Gray credited faith for both the school's and the medical center's survival and success.

He recalled the words of Dr. Coy Carpenter, the new medical school's first dean, who, when asked what chance the new school would have of succeeding, said, "We will succeed because we won't spend money we don't have."

After reviewing many of the areas of progress at the school in the past 40 years, Gray credited the role of the Board of Visitors of the medical center and the role of the private sector in raising 80% of the funds needed for the medical center's expansion over the past 15 years.

* * *

Following the dedication ceremony, it was announced that the medical center's newest building (previously called the Focus Building), a glass and steel administration building, will be called Watlington Hall. The name honors John F. Watlington, chairman of the Board of Visitors and former board chairman of Wachovia Corporation.

Watlington helped lead fund raising drives which provided more than \$75 million for implementing the medical center's expansion.

A portrait of Watlington now hangs in the lobby of Watlington Hall, along with a large plaque in appreciation of the efforts of the Board of Visitors. The plaque was unveiled during a small ceremony following the dedication.

* * *

Almost a thousand people gathered the evening of Sept. 14 to celebrate the medical center's 40th anniversary. Vice President George Bush remarked, "This center is in so many ways remarkable. To those who began it, it is and always will be a lasting monument to their generosity. To you who have given it your donations, your time, your devotion, your scholarship, it is a living source of pride. It is a testimonial to all that is fine and ennobling in the human spirit."

During his talk, Bush singled out one Bowman Gray graduate, Dr. Wesley Price, who has had a special meaning to the current Republican administration. "It was Dr. Price, a fourth-year surgical resident at

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George Washington University, who was on hand when the president, a bullet in his chest, was wheeled into the emergency room last March 30. And with all preparations and skill acquired at this great institution, he (Dr. Price) took charge."

The vice president took the opportunity to praise the role of the private sector in providing funds for the medical center. He also noted the role of the federal government in providing funds for the medical center's cancer, stroke and atherosclerosis research centers.

And he added, "What you have done over these last 40 years is to reaffirm our conviction that we can, as a nation of individuals, do great things. You have reaffirmed our faith in ourselves, and our faith in something higher than ourselves."

* * *

About a hundred friends and colleagues of Dr. Harold D. Green gathered in September to pay tribute to the former head of Bowman Gray's Department of Physiology and Pharmacology. He served as department chairman for 27 years before he retired his administrative duties in 1972.

A two-day symposium on Vasomotor Tone and Venous Return attracted participants from as far away as Argentina.

The event ended with a dinner and roast of Green.

"The Basic Atlas of Cross-Sectional Anatomy," prepared at Bowman Gray, has won a Certificate of Award at the 36th Philadelphia Book Show in recognition of its meeting "the industry's highest standards of design, printing and binding."

The book was written and prepared by Dr. Walter J. Bo, professor of anatomy; Dr. Isadore Meschan, professor of radiology; and Dr. Wayne A. Krueger, associate professor of anatomy.

Illustrations were coordinated by George C. Lynch, professor of medical illustration and director of Bowman Gray's Department of Audio-Visual Resources.

* * *

Dr. Charles S. Turner, one of the few surgeons in North Carolina who specializes in pediatric surgery, has joined the Bowman Gray faculty as assistant professor of surgery (pediatric surgery).

He comes to Bowman Gray from Johns Hopkins Hospital, where he was chief resident in pediatric surgery. He also completed an internship in surgery at the Methodist Hospital of Indiana and a surgical residency at North Carolina Baptist Hospital.

Turner is especially interested in pediatric trauma cases and in newborns with congenital problems that require surgical correction.

* * *

Dr. Rachel F. Meschan, clinical assistant professor

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Member Child Welfare League of America. Founded 1902.

of obstetrics and gynecology (marriage counseling), has been selected for the 1980 edition of the World Who's Who of Women.

* * *

Dr. George Podgorny, clinical associate professor of surgery (emergency medicine), has been appointed to represent the American Board of Emergency Medicine on the newly established Residency Review Committee on Emergency Medicine. The committee functions as part of the accrediting council for graduate medical education.

* * *

Dr. John R. Ureda, assistant professor of community medicine, has been elected to the North Carolina Board of Registry for Health Educators, Greensboro.

News Notes from the

**UNIVERSITY OF NORTH CAROLINA-
CHAPEL HILL SCHOOL OF MEDICINE
AND
NORTH CAROLINA MEMORIAL HOSPITAL**

Dr. Raymond P. White Jr., former dean of the School of Dentistry of the University of North Carolina at Chapel Hill, has been named an associate chief of staff at North Carolina Memorial Hospital.

The appointment effective Sept. 1, was announced by Dr. William E. Easterling Jr., chief of staff and associate dean for clinical affairs in the UNC-CH School of Medicine. "Dr. White's responsibilities will relate primarily to coordinating outpatient care activities of the medical faculty," Easterling said. Dr. Stuart Bondurant, dean of the School of Medicine, said White also will serve as an associate dean of the medical school.

The new associate chief of staff will work with the nearly 500 medical school faculty members, other physicians and dentists who make up the hospital's medical staff. N.C. Memorial Hospital operates about 140 clinics which record more than 250,000 patient visits a year.

White, who became dean of the School of Dentistry in 1974, resigned that position last September. Before coming to Chapel Hill, he was assistant dean for administrative affairs and professor of oral surgery in the School of Dentistry at Virginia Commonwealth University.

* * *

William D. Petasnick, the 35-year-old associate director of the University of Wisconsin Hospital and Clinics, has been named director of operations at North Carolina Memorial Hospital. The appointment,

effective Sept. 15, was announced by N.C. Memorial Executive Director Eric B. Munson.

Petasnick succeeds Robert F. Burgin, who resigned earlier this year to become executive director of Memorial Mission Hospital in Asheville.

Petasnick has served as associate director of the University of Wisconsin Hospital and Clinics for the past four years, overseeing the internal operations of the 549-bed institution. He was assistant director of the University of Wisconsin Hospitals from 1974 to 1977. He holds a faculty appointment at the University of Wisconsin as assistant clinical professor of health care administration.

Petasnick holds a master's degree in health administration from the University of Minnesota and is a member of the American College of Hospital Administrators.

* * *

The man who trained more than a third of the anesthesiologists now practicing in North Carolina will leave the chairmanship of the Department of Anesthesiology in the School of Medicine next summer.

Dr. Kenneth Sugioka, who will remain on the faculty, said he wants to devote more time to teaching and research.

Sugioka joined the medical school faculty in 1954 as an anesthesiologist in the Department of Surgery. By 1964, he was professor of surgery and chief of the division of anesthesiology. Five years later, anesthesiology was established as a separate medical school department.

* * *

A special school for people who suffer disabling back pain has been set up in the School of Medicine.

The back school program helps people with chronic back ailments understand the cause of their pain and cope with its physical, psychological and social effects. The school's development has been supported by a \$25,130 grant from the Kate B. Reynolds Health Care Trust.

Back problems always have been among the most difficult ailments to understand and treat, according to Dr. Stephen Grubb, assistant professor of orthopaedic surgery and director of the back school program.

Candidates for the back school are patients who have been referred to the adult spine clinic at North Carolina Memorial Hospital: patients with organic back problems, such as degeneration of spinal discs or spine deformities, severe pain for more than a year, and whose previous therapy has been unsatisfactory.

The school requires two days of instruction and therapy. A new session for a different group of patients is held each month with enrollment limited to about 10 patients per session so each can receive individual attention.

* * *

Drs. Douglass A. Drossman and J. Charles Jennette are co-winners of the 1981-82 Jefferson-Pilot Fellowship in Academic Medicine.

Drossman, an assistant professor of medicine and psychiatry, is a 1966 graduate of Hofstra University in Hempstead, N.Y. He received his M.D. degree in 1970 from the Albert Einstein College of Medicine. His research interests include psychosocial aspects of medical patient care. Drossman was appointed to the faculty in 1977.

Jennette is an assistant professor of pathology. He earned both his bachelor's and M.D. degrees from UNC-CH in 1969 and 1974, respectively. He was appointed to the School of Medicine faculty in 1978. His primary field of interest is immunopathology.

Dr. Stuart Bondurant, dean of the School of Medicine, announced the awards, which provide funding to be used at the discretion of the recipient for support of scholarly endeavors. The active term of the fellowship is four years.

The program is supported by a fund established by the Jefferson-Pilot Corp. and is intended to attract and hold promising young faculty. Candidates are nominated by senior faculty members and are judged on the basis of their achievements and their promise for furthering the tradition of excellence of the School of Medicine, Bondurant said.

* * *

The School of Medicine has been awarded a Wellcome Visiting Professorship in the Basic Medical Sciences for 1981-82.

The award, which will fund a visit to Chapel Hill by Dr. Walter J. Humphries, was announced recently by the Burroughs Wellcome Fund and the Federation of American Societies for Experimental Biology (FASEB). Humphries is a pathologist on the faculty of the University of Georgia.

The Wellcome Visiting Professorships are designed to stimulate interest in the basic sciences and to recognize eminent scientists in physiology, biology chemistry, pharmacology, pathology, nutrition and immunology. Eighteen professorships were awarded this year to institutions throughout the United States and abroad.

* * *

Shirley P. Powell has been appointed assistant director of Cancer Control in the Cancer Research Center.

Powell has been assistant to Dr. Joseph S. Pagano, director of the center, since 1977. From 1972-1975, she was involved in the development of the Area Health Education Centers Program.

In her new position, Powell will work with Dr. Wesley Fowler Jr., associate director of Cancer Control, and head of the gynecologic oncology program in the Department of Obstetrics and Gynecology. She will be involved with cancer control projects funded by the National Cancer Institute to improve the transfer of information on treatment and prevention of cancer.

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Do not use HEMTREX/HC Rectal Suppositories in patients with heart disease, high blood pressure, hyperthyroidism, diabetes, difficulty in urination, or who are taking tranquilizers or nerve pills.

Warnings:

For HEMTREX/HC Topical Medicated Foam: CONTENTS UNDER PRESSURE. DO NOT PUNCTURE OR INCINERATE. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. Do not insert any part of the aerosol container into the anus. Keep this and all medications out of the reach of children (See Precautions).

Precautions:

If irritation develops, the product should be discontinued and appropriate therapy initiated. In the presence of an infection resistant to treatment with antifungal or antibacterial agents, discontinue the use of the product until the infection has been controlled.

Pregnancy Category C—Hydrocortisone has been shown to be teratogenic in mice, rats, rabbits and hamsters when given in doses therapeutically equivalent to dosages used clinically in man. Those studies did not, however, evaluate the effect of topically applied drug.

There are no adequate and well controlled studies in pregnant women. Hydrocortisone should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus. Infants born of mothers who have received substantial doses of corticosteroids during pregnancy should be carefully observed for signs of hypoadrenalism.

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HEMTREX Hemorrhoidal Suppositories are available in boxes of 12 or 24.

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* * *

Dr. John A. Ewing, director of the Center for Alcohol Studies and professor of psychiatry, received the Rush Silver Medal for his scientific exhibit at the 134th annual meeting of the American Psychiatric Association in New Orleans.

* * *

Dr. Walter B. Greene, assistant professor of surgery, presented a paper titled "Surgery for Scoliosis in Congenital Factor VII Deficiency" to the annual meeting of the Pediatric Orthopaedic Study Group May 1 in Nashville, Tenn.

* * *

Dr. James F. Howard, assistant professor of neurology, was appointed to the Medical Advisory Board of the Myasthenia Gravis Foundation.

* * *

Dr. Priscilla Day Boekelheide, assistant professor of psychiatry, was elected an active member and granted certification in psychoanalysis May 7 at the spring meeting of the American Psychoanalytic Association. Boekelheide also was elected a fellow of the American Psychiatric Association May 11 in New Orleans.

* * *

Dr. James N. Hayward, professor and chairman of neurology, was the John F. Sullivan visiting professor of neurology at the New England Medical Center Hospital and Tufts University School of Medicine May 13-15 in Boston.

* * *

Dr. Gerald Fernald, associate professor of pediatrics, attended the second Southeastern Cystic Fibrosis Caregivers' Conference May 15-16 in Charleston, S.C.

News Notes from the

EAST CAROLINA UNIVERSITY SCHOOL OF MEDICINE

East Carolina University has accepted 52 students from North Carolina into the first year class at the School of Medicine.

The students represent 33 counties in the state and 21 universities. Thirteen of the students received either undergraduate or graduate degrees from East Carolina.

The class was selected from more than 1100 applicants. Fourteen of the students are women.

Last year ECU accepted 40 students into the entering class. The Liaison Committee on Medical Education granted the medical school full accreditation in May and gave permission to increase the first-year enrollment to 52 students.

The school now has 172 students enrolled in the four-year medical education program. The first 28 graduates of the school received their medical degrees in May.

* * *

A program that started at the ECU School of Medicine three years ago to train more emergency medical technicians in advanced life support is today the basis for the development of an emergency medical services system of the region.

The project is supported by a \$500,000 grant from the Department of Health and Human Services and local matching funds from 29 county governments in Eastern North Carolina.

Dr. E. Jackson Allison, chairman of emergency medicine, serves as medical director for the Eastern Carolina Emergency Medical Services System, the private, non-profit corporation based in Washington, N.C., that developed the grant application for the project.

The agency is responsible for implementing a comprehensive plan to improve the skills of emergency personnel and also the communication system and equipment with which they work.

The grant will partially fund the purchase of essential life-support equipment requested by rescue squads and hospital emergency departments in the area. It will also provide 11 community colleges with audiovisual and teaching equipment to supplement the instruction offered in basic life support.

* * *

Dr. G. Lynis Dohm, associate professor of biochemistry, is the recipient of a Fogarty Senior International Fellowship, a prestigious award that supports collaborative research for medical scientists.

Dohm's fellowship will support 12 months of study and research at Oxford University. The award is funded by the National Institutes of Health.

Dohm left for England in September to collaborate with Dr. E. A. Newsholme, an Oxford biochemist, on a project dealing with glucose production during exercise.

Dohm has conducted research on metabolic controls of glucose production for more than 10 years. His projects have received grant support from the National Institute of Arthritis, Metabolism and Digestive Diseases.

* * *

Dr. Paul H. Mehne has been named assistant dean for curriculum and student affairs at the East Carolina University School of Medicine.

Mehne formerly was curriculum coordinator and associate director for instructional development at the medical school. In his new position he will direct curriculum development and coordinate expanded programs for students.

Mehne joined ECU in 1975 as assistant professor of community health and coordinator of instructional development. He assisted the Schools of Medicine, Nursing, and Allied Health and Social Professions with the development of competency-based instructional systems and techniques for meeting the particular needs of disadvantaged students.

Mehne received his undergraduate degree from the State University of New York and doctoral degrees in instructional development from Syracuse University and in environmental education from SUNY.

* * *

Dr. James E. Nicholson, a recent graduate of the residency training program at the School of Medicine, is one of 12 recipients of a \$1,400 award from the American Academy of Family Physicians.

Nicholson, a Robersonville family physician, completed postgraduate training in family medicine at ECU in July. He also attended ECU as a first-year medical student in 1974 under the university's one-year medical education program.

The award is given annually to aid physicians who

enter the part-time teaching of family medicine following completion of residency training. Nicholson will be supervising medical students and residents at the Eastern Carolina Family Practice Center, where he served as chief resident during his last year of study.

Nicholson was selected from among 72 candidates for the teaching development award on the basis of scholastic achievement, leadership qualities and interest in medical education. The grant is funded by the Parke-Davis Company of New Jersey.

Nicholson received his medical degree from the University of North Carolina-Chapel Hill.

* * *

Dr. James P. Gutai, a specialist in pediatric endocrinology, has been appointed associate professor of pediatrics.

His special areas of research are the development of pumps for the infusion of insulin in diabetic patients and the study of male and female hormones as they affect growth and development.

Gutai's research on the development of infusion pumps and on factors in coronary artery disease is supported by grants from the National Institutes of Health.

Gutai formerly was assistant professor of pediatrics at the University of Pittsburgh School of Medicine and

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director of the steroid hormone laboratory at Children's Hospital, Pittsburgh.

He received his undergraduate degree from Lafayette College and his medical degree from Temple University. He did postgraduate training in pediatrics and endocrinology at the University of Michigan and Johns Hopkins Hospital.

* * *

Three physicians specializing in lung, heart and gastrointestinal disorders have joined the Department of Medicine. The physicians are Dr. Robert A. Shaw, pulmonary medicine; Dr. Charles H. Hicks, cardiology; and Dr. Dennis R. Sinar, gastroenterology.

Shaw recently completed a fellowship in pulmonary medicine at Ohio State University Hospitals, where he also completed postgraduate training. He received his undergraduate and medical degree from Duke University.

Shaw will direct the development of a sleep apnea laboratory for the treatment of sleep problems associated with abnormal breathing patterns.

Hicks completed residency training and a fellowship in clinical cardiology at the University of California, San Diego. He received his undergraduate and medical degrees from the University of North Carolina-Chapel Hill.

He will conduct cardiac catheterization, angiography and echocardiography studies in the medical school's cardiac catheterization laboratory at Pitt County Memorial Hospital. His special research areas are left ventricular function in ischemic heart disease and the effects of exercise on the cardiovascular system.

Prior to joining ECU Sinar was assistant professor of gastroenterology at the Uniformed Services University for the Health Sciences and the Walter Reed Army Institute for Research.

He completed a fellowship in gastroenterology and residency training in medicine at Ohio State University Hospitals. He received his undergraduate degree from Marquette University and his medical degree from Ohio State.

His primary research areas are the pathophysiology of the esophagus and small bowel function. He will be responsible for laparoscopy studies in the diagnosis of liver diseases and tumors.

* * *

Three physicians recently joined the Eastern Carolina Family Practice Center at the School of Medicine.

Drs. Andrea L. Brand, Janice E. Daugherty and Richard D. Rawl began teaching and patient care activities in the Department of Family Medicine in July.

Brand formerly was in private practice in East Hampton, N.Y. She received her undergraduate degree from Adelphi University and her medical degree from the State University of New York Downstate Medical Center.

She did postgraduate training at Sinai Hospital, Baltimore, Md., and Southside Hospital, Bay Shore, N.Y.

Daugherty and Rawl, who completed residency training in family medicine at ECU in June, are graduates of the Bowman Gray School of Medicine. Daugherty received her undergraduate degree from Wake Forest University and Rawl from the University of South Carolina.

Rawl is medical director for the Bethel Family Practice Center, a satellite unit for the Greenville facility.

* * *

Dr. Dennis A. Revicki has been appointed research coordinator in the Department of Family Medicine.

He will coordinate studies dealing with patient attitudes and the physician-patient relationship, family relations and stress, psychosocial influences on disease, drug therapy and the delivery of patient care.

Revicki received his undergraduate degree from the University of Connecticut, master's degree from Southern Connecticut State College and doctoral degree in educational psychology from the University of North Carolina-Chapel Hill.

Prior to joining ECU Revicki was research associate with the Division TEACCH at the UNC School of Medicine.

* * *

Three physicians specializing in general internal medicine have joined the East Carolina University School of Medicine. Drs. Peter R. Lichstein, Robert C. Turner and George S. Hughes Jr. began teaching and patient care activities in the Department of Medicine in July.

Lichstein recently completed a medical-psychiatric liaison fellowship at Strong Memorial Hospital, Rochester, N.Y. His studies were supported by a grant from the National Institute of Mental Health.

He received his undergraduate and medical degrees from the University of Michigan and completed postgraduate training at the University of North Carolina-Chapel Hill.

Turner was a National Health Service Corps physician at White Oak Medical Center in Maysville, N.C., before joining the medical school. While in Maysville he held a clinical appointment at ECU and actively participated in service and teaching programs in the Department of Medicine.

Turner received his undergraduate degree from Augustana College, Rock Island, Ill., and his medical degree from the University of Illinois at Chicago. He did his residency training at Michigan State University.

Hughes recently completed postgraduate training at ECU where he was chief resident during his final year of study.

He received his undergraduate degree from the University of Richmond and his medical degree from the Medical College of Virginia. He did an internship at Cincinnati General Hospital before joining the ECU program.

Dr. Katherine L. Madson has been appointed assistant professor of anatomy. Madson recently completed a postdoctoral fellowship at Update Medical Center, Syracuse, N.Y., where her studies were supported by an award from the Juvenile Diabetes Foundation.

She received her undergraduate degree from St. Lawrence University, Canton, N.Y., and her doctoral degree from the University of Minnesota.

* * *

Two physicians specializing in emergency medicine have joined the faculty at the School of Medicine. Drs. Loftus Hengeveld Jr. and V. P. Raju will serve as attending physicians in the Emergency Department at Pitt County Memorial Hospital and assume teaching responsibilities for ECU medical students and residents.

Hengeveld has been an attending physician at Pitt Memorial since 1977. He formerly was an emergency room physician at Southern Ocean Hospital in Manahawkin, N.J., and associate director of anesthesiology at Hackensack Hospital, Hackensack, N.J.

He received his undergraduate degree from Virginia Military Institute and his medical degree from Hahnemann Medical College, Philadelphia. He did residency training at Hackensack Hospital, Newton Memorial Hospital, Newton, N.J., and Hahnemann Medical College.

Raju was attending physician in emergency medicine at Carteret General Hospital in Morehead City prior to joining ECU. He also has served on the medical staff at Onslow Memorial, Jacksonville, and at Broughton Hospital, Morganton.

Raju received his undergraduate degree from W. G. B. College and his medical degree from Rangara Medical College in India. He did postgraduate training at Burnley, Victoria and Hartley hospitals and at the Manchester Royal Infirmary in England. He is a fellow of the Royal College of Surgeons.

* * *

Dr. Uwe R. Muller, assistant professor of microbiology, presented a seminar on "DNA Secondary Structure in Sequenced Virol Genomes" at the Max Planck Institut fur Biochemie in Munich and at the Institut fur Genetik in Cologne. Muller also presented a poster session on "The Distribution of the Potential for Certain Types of DNA Secondary Structure in Sequenced Genomes" at the Third International Biophysics Congress and the Third Pan-American Congress in Mexico City.

* * *

Dr. Loretta Kopelman, associate professor of pediatrics and humanities, conducted a workshop entitled "Autonomy and Paternalism in the Care of Children with Catastrophic and Chronic Illness" at the Institute for Public Studies at Vanderbilt University.

Drs. Yash P. Kataria and P. Bruce Campbell, associate professors of medicine, traveled to Paris August 31-September 4 for the Ninth International Conference on Sarcoidosis and Other Granulomatous Disorders. While at the conference, Kataria and Campbell presented two papers: "In Vitro Observations on Intact Granulomas of Sarcoidosis" and "Regulation of Inflammation by the Granuloma of Sarcoidosis: Effect of Corticosteroids in Vitro."

* * *

Dr. Theodore Kushnick, professor of pediatrics and director of the Developmental Evaluation Center, was selected to present the John W. Canady Memorial Lectureship at Glens Falls Hospital, N.Y. Kushnick's topic was "Humane Human Genetic Counseling."

* * *

Dr. John P. DaVanzo, professor of pharmacology, was visiting professor in the Psychiatry and Pharmacology Departments at the University of Washington School of Medicine in Seattle August 17-22. DaVanzo presented a seminar entitled "Association of Low Brain GABA with Muricidal Behavior" and conducted a workshop on "The Measurement of GABA in Brain and Cerebral Spinal Fluid."

* * *

Dr. James R. Markello, professor of pediatrics, spent three weeks during the summer traveling through China with a group of 20 pediatricians from throughout the United States. During the tour, the physicians studied China's pediatric health care system.

* * *

Dr. G. Richard Athey, assistant professor of physiology, co-authored an article appearing in the June issue of the *American Physiological Society*. The article is entitled "Synaptic Activation of Erratic Burst-type Neurons in Cat Small Intestine."

* * *

Dr. Leonard S. English, assistant professor of microbiology, spent one month during the summer at the Northwick Park Clinical Research Center in London studying the production of the lymphokine Interleukin 2 in normal and immunodeficient subjects.

* * *

Dr. John C. Moskop, assistant professor of pediatrics and humanities, has been named book review editor for the *Journal of Metamedicine*. The journal deals with the philosophy and methodology for medicine.

* * *

Dr. Charles A. Hodson, assistant professor of obstetrics and gynecology, presented a paper entitled "The Antigonadotrophic Effects of Hyperprolac-

tinemia Do Not Involve Tuberoinfundibular Dopamine System" at the National Endocrine Society meeting in Cincinnati. Drs. Hubert W. Burden and Irvin E. Lawrence co-authored the paper.

Hodson published "Inhibition of Hypothalamic LHRH Depletion After Ovariectomy by Transplant-

able Prolactin and Growth-Hormone-Secreting Tumors (41181)" in the July issue of *Proceedings of the Society for Experimental Biology and Medicine*. Co-authors include Drs. Burden and Lawrence, Dr. Thomas W. Louis, associate professor of anatomy and Dr. Max C. Poole, assistant professor of anatomy.

Arsenic, whether in doses which are generally poisonous, or as medicine, is capable of producing albuminuria, dependent apparently on tubal inflammation. M. Ollivier has collected many instances of the former kind, in which edema occurred during life in connection with the fatal action of arsenic, the urine at the same time containing blood, albumen, and casts, and the kidneys subsequently being found to be swollen and congested. The urine in these circumstances has been shown to contain arsenic, the kidneys providing one of the channels by which this poison is eliminated. Looking at the intensely irritating properties of arsenic, it is not to be wondered at that the glands in question should thus resent its passage. — Dickinson WH. *A Treatise on Albuminuria*. 2nd ed. New York: William Wood & Company, 1881.

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| Blue Cross & Blue Shield of N.C. | 755 | Mandala Center | 772 |
| Boots Pharmaceuticals, Inc. ... | 759, 760, 761, 762, 809, 810, 811, 812 | Medical Mutual Insurance Company | 779 |
| Bristol-Myers Professional Products .. | 765, 766, 767, 768, 821, 822 | Merrell Dow Pharmaceuticals .. | 800, 814, 815, 816 |
| Burroughs Wellcome Co. | 780 | Mutual of Omaha | 769 |
| Charlotte Chest Laboratory | 803 | National Medical Enterprises, Inc. | 817 |
| Charlotte Treatment Center | 830 | Ortega Pharmaceutical Company | 820 |
| Children's Home Society of N.C. | 818 | Ramada Inn Downtown | 770 |
| Crumpton, J. L. & J. Slade, Inc. | 757 | Roche Laboratories | Cover 2, 751, 752, 798, 799, Cover 3, Cover 4 |
| Fellowship Hall | 807 | Saint Albans Psychiatric Hospital | 827 |
| Golden-Brabham Insurance Agency | 771 | Smith, Kline & French | 797 |
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North Carolina MEDICAL JOURNAL

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Original Articles

- Unemployment: The Health Consequences in Children** 849
Lewis H. Margolis, M.D.,
M.P.H., and Dale Farran, Ph.D.
- Child Abuse or Neglect of Resident Live Births, Durham County, North Carolina** 851
Craig D. Turnbull, M.P.H., Ph.D.,
John D. Fletcher, M.D., M.P.H.,
and Delton Atkinson, M.P.H.
- Sleep Disorders. Part II: Disorders of Excessive Somnolence** 854
J. Ingram Walker, M.D.

Special Articles

- The New Tax Law: What You Should Know**
William C. Blackman, CPA
- Do Not Resuscitate (No Code Blue) Orders and the 1981 Amendments to North Carolina's Right to Natural Death Statutes**
John H. Anderson and Julian D. Bobbitt, Jr.

Mini-Feature

- Toxic Encounters of the Dangerous Kind—Diphenoxylate (Lomotil)** . 858
Ronald B. Mack, M.D.

Editorials

- Meeting of the Executive Council at Mid Pines, September 26-27, 1981** 859
- GMENAC and Getting Into Medical School** 860

Bulletin Board

- New Members of the State Society** 863
- What? When? Where?** 863
- Auxiliary to the North Carolina Medical Society** 864
- News Notes from the Bowman Gray School of Medicine of Wake Forest University** 868
- News Notes from the Duke University Medical Center** 874
- News Notes from the East Carolina University School of Medicine** .. 877
- News Notes from the University of North Carolina-Chapel Hill School of Medicine and North Carolina Memorial Hospital** 879
- Classified Ads** 887
- Index to Advertisers** 888
- Index to Volume 42** 889

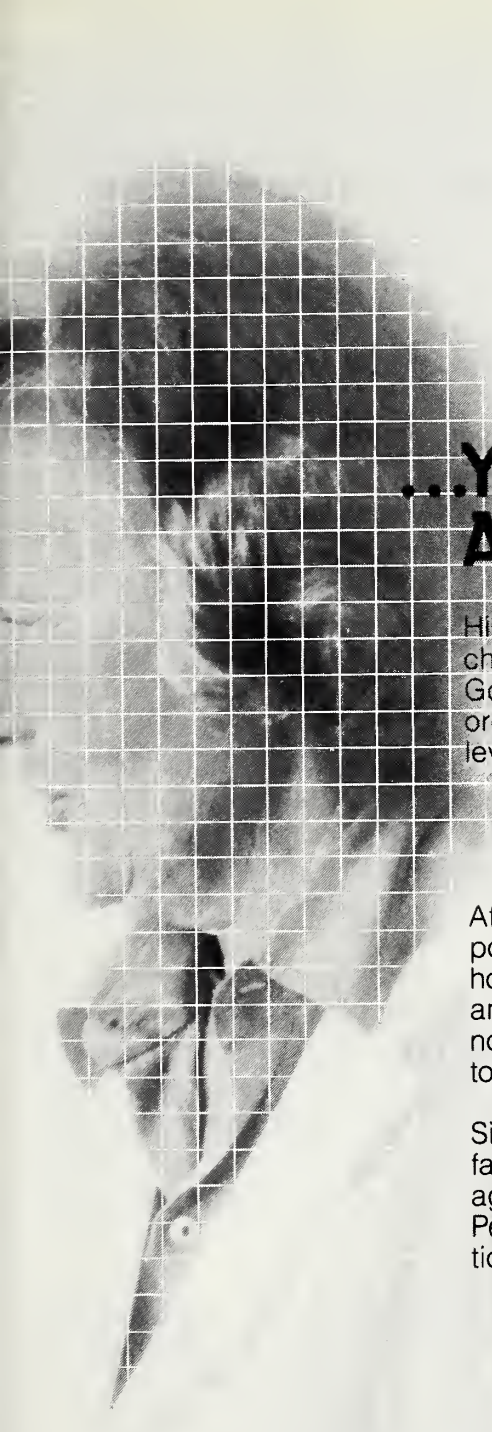
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The effectiveness of Valium (diazepam/Roche) in long-term use, that is, more than 4 months, has not been assessed by systematic clinical studies. The physician should periodically reassess the usefulness of the drug for the individual patient.

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma, may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication, abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms similar to those with barbiturates and alcohol have been observed with abrupt discontinuation, usually limited to extended use and excessive doses. Infrequently, milder withdrawal symptoms have been reported following abrupt discontinuation of benzodiazepines after continuous use, generally at higher therapeutic levels, for at least several months. After extended therapy, gradually taper dosage. Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence.

Usage in Pregnancy: Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed, drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation. The clearance of Valium and certain other benzodiazepines can be delayed in association with Tagamet (cimetidine) administration. The clinical significance of this is unclear.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported, should these occur, discontinue drug. Isolated reports of neutropenia, jaundice, periodic blood counts and liver function tests advisable during long-term therapy.

Dosage: Individualize for maximum beneficial effect. **Adults:** Anxiety disorders, symptoms of anxiety, 2 to 10 mg b.i.d. to q.i.d.; alcoholism, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed, adjunctively in skeletal muscle spasm, 2 to 10 mg t.i.d. or q.i.d., adjunctively in convulsive disorders, 2 to 10 mg b.i.d. to q.i.d. **Geriatric or debilitated patients:** 2 to 2½ mg, 1 or 2 times daily initially, increasing as needed and tolerated. (See Precautions.) **Children:** 1 to 2½ mg t.i.d. or q.i.d. initially, increasing as needed and tolerated (not for use under 6 months).

How Supplied: For oral administration, Valium scored tablets—2 mg, white; 5 mg, yellow; 10 mg, blue—bottles of 100* and 500,* Prescription Paks of 50, available in trays of 10* Tel-E-Dose® packages of 100, available in trays of 4 reverse-numbered boxes of 25,† and in boxes containing 10 strips of 10*.

*Supplied by Roche Products Inc., Manati, Puerto Rico 00701.

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PLAN
AHEAD
→ MID-WINTER CONFERENCE
February 4-5, 1982

Hyatt House
Winston-Salem, N.C.

→ ANNUAL MEETING
May 6-9, 1982

Pinehurst Hotel
Pinehurst, N.C.

→ COMMITTEE CONCLAVE
September 29-October 3, 1982

Mid Pines Club
Southern Pines, N.C.



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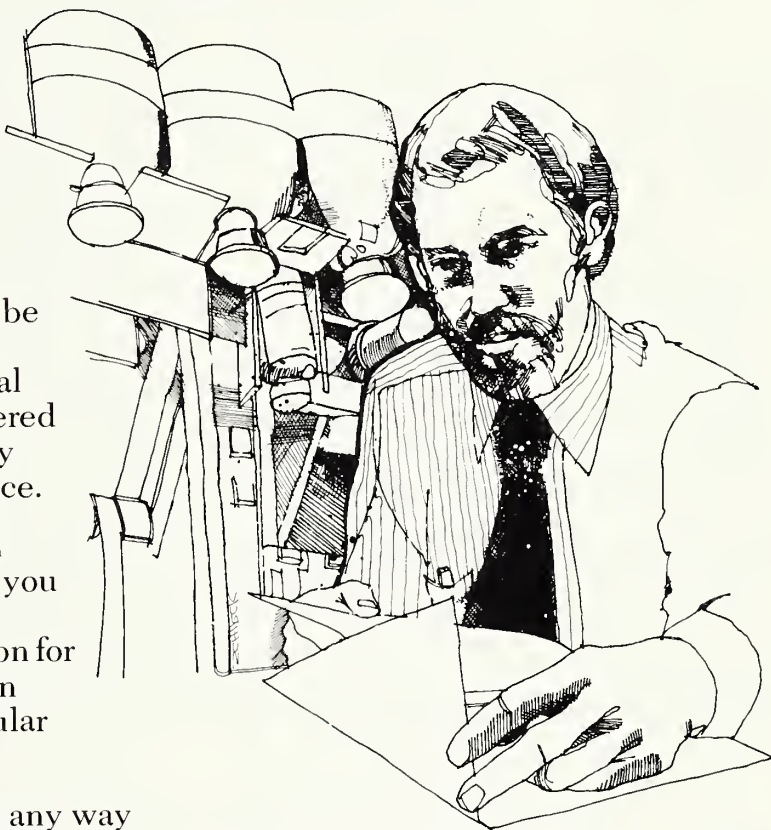
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| Phenylpropanolamine Hydrochloride | 50 mg |
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| Hyoscyamine Sulfate | 0.19 mg |
| Atropine Sulfate | 0.04 mg |
| Scopolamine Hydrobromide | 0.01 mg |

Ru-Tuss Tablets act continuously for 10 to 12 hours

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WARNINGS Ru-Tuss Tablets may cause drowsiness. Patients should be warned of the possible additive effects caused by taking antihistamines with alcohol, hypnotics, sedatives or tranquilizers.

PRECAUTIONS Ru-Tuss Tablets contain belladonna alkaloids, and must be administered with care to those patients with glaucoma, or urinary bladder neck obstruction. Caution should be exercised when Ru-Tuss Tablets are given to patients with hypertension, cardiac or peripheral vascular disease or hyperthyroidism. Patients should avoid driving a motor vehicle or operating dangerous machinery (See Warnings).

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DOSAGE AND ADMINISTRATION Adults and children over 12 years of age, one tablet morning and evening. Not recommended for children under 12 years of age. Tablets are to be swallowed whole.

HOW SUPPLIED

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Bottles of 500 Tablets

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DOSAGE AND ADMINISTRATION Adults: 1 or 2 teaspoonfuls, orally, every 4 hours, not to exceed 10 teaspoonfuls in any 24-hour period.

Children 6 to 12 years of age: ½ the adult dose, not to exceed 6 teaspoonfuls in any 24-hour period. Children 2 to 6 years of age: ½ teaspoonful every 4 hours, not to exceed 3 teaspoonfuls in any 24-hour period. Children under 2 years of age: Use as directed by a physician.

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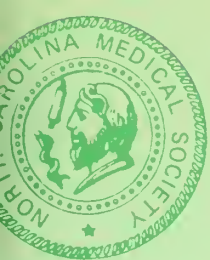
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PRESIDENT'S NEWSLETTER

NORTH CAROLINA MEDICAL SOCIETY

NO. 7

DECEMBER 1981

Dear Colleagues:

Somehow, it seems that my NEWSLETTER always ends with the North Carolina Medicaid Program as its main topic. However, this is the year of big Medicaid changes and our membership needs to be informed -- even as the format changes -- month by month. Just before the "due date" of the November NEWSLETTER, the North Carolina General Assembly legislated a statewide fee schedule for physicians and all other professionals and mandated consultation with "the providers of such services and their respective professional associations". I requested an extension of time for the North Carolina Medical Society response, until February 15, 1982, to allow for necessary consultation with each Specialty Section.

Sarah T. Morrow, M.D., Secretary, North Carolina Department of Human Resources, kindly granted the time extension. Accordingly, on November 9, an ad hoc Committee to Consider a Statewide Medicaid Reimbursement Fee Schedule for Physicians was appointed. This ad hoc Committee, chaired by John L. McCain, M.D., is composed of the twenty (20) Specialty Section Chairmen. The first called meeting, on November 21, was attended by representatives of sixteen (16) Specialty Sections and a representative of the Old North State Medical Society. It is to their everlasting credit that they gave careful attention to the matter at hand -- even while missing the Carolina/Duke football game. This Committee will study the problem, confer with the Division of Medical Assistance and, finally, recommend a Society position to the Executive Council for action. After careful consideration of the facts presented to it from the Specialty Sections, the Executive Council will decide what position, if any, will be the official position of the North Carolina Medical Society. Please consult with the Section Chairman of your specialty, if you have any thoughts to contribute. The Specialty Section Chairmen are listed on Page 3 of your North Carolina Medical Society Roster. The time table of activity follows:

| | |
|--------------------|--|
| November 21, 1981: | Meeting ad hoc Committee |
| December 2, 1981: | Meeting of NCMS Representatives and Old North State Representatives with Representatives of the North Carolina Division of Medical Assistance |
| Mid December: | Report to entire ad hoc Committee |
| Early January: | Meeting of ad hoc Committee |
| February 6: | Report of ad hoc Committee to Executive Council |
| February 15: | Report of Executive Council to North Carolina Department of Human Resources |

Many of you have contacted me in regard to the "Living Will" Statute (House Bill 1191). Cumberland County Society and Rowan County Society have expressed particular concern. Subsequent to the numerous calls which I have received, I have asked North Carolina Medical Society's two Legal Counselors, John H. Anderson and Julian ("Bo") Bobbitt to submit a guest editorial for the December, North Carolina

Medical Journal discussing the legal implications of House Bill 1191 and its effect on the practice of medicine. Be sure to look for this important editorial which will better inform you of possible necessary changes within your practice.

The ad hoc Committee on Risk Management, chaired by Ira M. Hardy, II, M.D., met on November 11 for further study of management of malpractice risks and possible courses of action of the North Carolina Medical Society. Representatives of Medical Mutual Insurance Company and St. Paul Life and Marine Insurance Company have encouraged the Committee to sponsor a three-hour course on Risk Management, to be presented in all areas of the state for the convenience of our membership. While attendance will not be compulsory, we hope that attendance will gain us a discount in malpractice insurance premium as well as CME credit. Even now several members of the Committee are attending similar courses being conducted in Florida and Pennsylvania. Upon their return, the North Carolina course will be planned. If at all possible, the first presentation will be on Wednesday night, May 5, 1982, or Sunday morning, May 9, 1982 in Pinehurst -- immediately before or after the Society's Annual Meeting. Negotiation is underway with Medical Mutual in hope that completion of the three (3) hour course will earn a three (3) year discount on your malpractice insurance premium. In order to maintain this discount, each physician would take a second three-hour course before the end of the third year. All of this is not absolutely definite at this time -- however -- since it's the only good news I've heard lately, I just had to relay it to you!

Within the past month, I have had the pleasure of visiting and speaking to the members of the Fourth District Medical Society and the Guilford County Medical Society. I cannot tell you how much I enjoyed being with you and hearing your interests. Both meetings were well attended. I am greatly encouraged by the apparent renewed interest of our membership. By the way, the membership drive, chaired by Vice-President John Foust is quite successful. The next meeting to recruit new members will be in Sanford (Lee County) on Monday, November 30. John and I hope for a meeting such as this in each County Society. Let us hear from you!

May the Blessing, Peace, Joy, and Happiness of Christmas be showered on you and your family this Christmas and always!



Josephine E. Newell, M.D.
President

DO NOT RESUSCITATE (NO CODE BLUE) ORDERS AND THE 1981 AMENDMENTS TO NORTH CAROLINA'S RIGHT TO NATURAL DEATH STATUTES

BY

John H. Anderson*
and
Julian D. Bobbitt, Jr.*

INTRODUCTION

In light of the considerable interest shown by the membership of the Medical Society as to the effect the recent amendments to North Carolina's Natural Death Act may have on "do not resuscitate," or "no code blue,"² orders, we were asked to prepare this article in an effort to shed some light on legal issues involved and to provide information on the background, purpose and effect of the amended Act.

Among the many awesome burdens and responsibilities of an attending physician is deciding when not to employ available medical procedures which would artificially prolong a patient's life. With the advent of increasingly sophisticated and effective life support equipment and techniques, physicians are becoming more frequently confronted with the often conflicting mandates of promoting and continuing life while respecting human dignity and the need to avoid suffering. This sensitive problem has been addressed from an ethics perspective in the Opinions of the Judicial Council of the American Medical Association

as follows:

"The social commitment of the physician is to prolong life and relieve suffering. Where the observance of one conflicts with the other, the physician, patient and/or family of the patient have discretion to resolve the conflict.

For humane reasons, with informed consent a physician may do what is medically necessary to alleviate severe pain, or cease or omit treatment to let a terminally ill patient die, but he should not intentionally cause death. In determining whether it is in the best interest of a terminally ill incompetent patient to administer potentially life-prolonging medical treatment, the physician should consider what the possibility is for extending life under humane and comfortable conditions and what are the wishes and attitudes of the family or those who have responsibility for the custody of the patient.

Where a terminally ill patient's coma is beyond doubt irreversible and there are adequate safeguards to confirm the accuracy of the diagnosis, all means of life support may be discontinued."³

Considerations of the allocation of scarce medical resources also often arise, as do questions concerning the economic burden and justification of such measures.⁴

These considerations must ultimately be translated into practical effect, most often in the cardiopulmonary resuscitation, or "code blue," context involving procedures implemented when there is a failure of natural life sustaining processes. The "Medicolegal Considerations and Recommendations" published by the Conference on Advance Life Supports in the AMA Journal⁵ contained the following direction concerning "orders not to resuscitate":

"The purpose of cardiopulmonary resuscitation is the prevention of sudden, unexpected death. Cardiopulmonary resuscitation is not indicated in certain situations, such as in cases of terminal irreversible illness where death is not unexpected or where prolonged cardiac arrest dictates the futility of resuscitation efforts. Resuscitation in these circumstances may represent a positive violation of an individual's right to die with dignity."

Into this medical, social, ethical, and economic setting must also be fitted the requirements, imposed by our legal system. There has been an expression of concern that perhaps outdated legal constraints might require attempts to resuscitate dying patients in most cases, without the exercise of medical judgment even when that action may be a pointless and painful

prolongation of the act of dying. When life sustaining medical technology and equipment is not employed to prolong artificially the life of a patient, an array of legal rights, interests and duties is called into play. It has been said that in these cases the patient's constitutional rights to liberty, privacy and religion and his common law right to bodily integrity must be balanced against society's countervailing interests in public health and the sanctity of life. It has also been argued that physicians should not be allowed to sway from their sole role as healer. Although courts in other states have increasingly recognized the right of a competent terminally ill adult to refuse care or treatment which would forestall the natural process of dying and the observance of this desire by a physician if expressed in a provable manner; and, to a lesser degree, the circumstances under which an appropriate representative of an incompetent patient may also exercise this right for him, decisions⁶ are by no means uniform or clear. There are no reported decisions from a North Carolina court which could form the basis for any legal opinion in response to this question, and decisions considering the delicate balance of these legal rights from other states do not furnish an undebatable prediction of how North Carolina courts would answer these questions.

BASIS FOR LEGISLATION

The North Carolina Right to Natural Death Act was specifically enacted in response to this legal uncertainty, to provide an alternative, sanctioned procedure for the circumstances under which extraordinary life support measures need not be employed. The Act provides in this regard:

"The General Assembly hereby recognizes that an individual's rights as a citizen of this State include the right to a peaceful and natural death. This Article is to establish a procedure for the exercise of that right and to state expressly the extent of a physician's obligation to preserve the life of his patient in situations where artificial means may be used to sustain the circulatory and respiratory functions for an indefinite period."

It is important to note that the Legislature enacted this statute to provide a clear means, but not the only means, of legally protecting the decision not to artificially prolong life. This intent is evidenced by the fact that the General Assembly recognized, and did not grant, the legal right to self determination in this matter, and declared:

"Nothing in this Article shall impair or supercede any legal right or legal responsibility which any person may have to effect the withholding or withdrawal of life-sustaining procedures in any lawful manner. In such respect, the provisions of this Article are cumulative."

The Right to Natural Death Act basically established a mechanism whereby a person could execute a document, a "living will," establishing his desire for a natural death and the withholding or withdrawal of life support systems under certain circumstances. Also, a procedure was established to allow for the discontinuance of life supports under limited circumstances for a comatose patient, in the absence of a declaration. This procedure is embodied in Sec. 90-322 of the Act, and remains essentially intact, although it initially required a determination that the patient

had suffered an irreversible cessation of brain function. The procedure under Sec. 90-322 included a requirement that the finding that the patient's terminal, incurable and irreversible condition be confirmed by the majority of a team of three physicians. This process and the number of physicians required were the minimum found acceptable by the General Assembly when the Act was passed. Also, certain precedents are always necessary because the Constitution requires certain minimum protections of individual rights that any statute must observe. (A copy of the entire Act, as amended in 1981, is provided at the Appendix and may be reviewed for detailed information on the Act's mechanics.)

Although the statute specifically mentioned the "withholding" as well as "withdrawal" of life-sustaining procedures in its preamble, definition and "living will" sections, only the discontinuance of extraordinary means was mentioned in the section concerning allowing natural death in the absence of a declaration. Also, the section applied only to the "comatose" patient and not to others mentally incapacitated for other reasons. Thus, for incapacitated patients without living wills, the Act did not technically cover the situation when "code blue" life supports might otherwise properly be withheld.

The 1981 amendments to the Right to Natural Death Act were intended to fill this void in the law to provide a legally approved procedure for withholding extraordinary life supports for incompetent patients--the common no-code situation. These amendments were supported by the North Carolina Medical Society and the North Carolina Hospital Association because of the uncertainty created by the divergent court decisions of other states concerning the legality of employing a no-code order for an incompetent patient.

The 1981 amendments essentially served to broaden the applicable section 90-322 to include all "mentally incapacitated" patients and the "withholding" of treatment. Prior to this amendment, there was no clear legal support in this State for use of a no-code order in the absence of a "living will" declaration.

IMPACT OF AMENDED ACT

The Act continues to be an additional means of effecting the lawful withholding or withdrawal of life-sustaining procedures. If our courts would render a workable and definitive ruling on these issues, then physicians could safely choose not to follow the formal requirements of the Act and could instead operate within the parameters established by such a decision. However, until a decision is rendered the procedures set forth in the Act offer the only predictable legal protection for the physician who would order the withholding or discontinuance of extraordinary means to prolong the life of a patient, including the no-code situation. We have been informed that the North Carolina Hospital Association desires that attending physicians follow the procedures set forth in the Act in all no-code situations.

The amended Right to Natural Death Act follows this article as an Appendix. As evidenced from a reading of Sec. 90-322 of the amended Act, a decision under the statute to withhold extraordinary means to prolong life in the absence of a living will for a person who is mentally incapacitated may be made only if: (1) the attending physician finds the patient's condition to be terminal, incurable and irreversible; (2) this finding is confirmed by at least two of three other physicians; and (3) the withholding is requested by the patient's

spouse, guardian or close relatives, if available (or if they are not available, the withholding decision is made by the attending physician).

The statute does not require the initiation of cardiopulmonary resuscitation when it would not successfully restore a vital function of the patient.¹⁰ Nor is it indicated when the patient has been determined to be clinically dead by a physician applying ordinary and accepted standards of medical practice.¹¹ It is recognized that the distinction between attempting to restore life to a dead body and attempting to revive a vital body function of a living body is often both medically and philosophically difficult to make. Notwithstanding other legal requirements, this distinction and determination must depend upon the diagnosis and judgment of the attending physician.¹² Further, the requirements of Sec. 90-322 are prompted only if there has not been a prior declaration by the patient when lucid.

Nonetheless, the practical burden of abiding by this statute is frequently substantial. We have been told that it is often difficult, if not impossible, to obtain the informed judgment of the three additional physicians required by the statute. And the law demands that the patient's family or guardian "request" that life supports be withheld, creating a delicate human problem of forcing this ultimate decision on parties who perhaps should not be required to make them. Often, exigencies of the moment do not provide the luxury of time to comply with the Act's required procedures. And the wasted time, effort, emotion and expense of invoking extraordinary life support measures solely because the prerequisite procedures of the Act have not been, or could not be, completed, are significant problems.

Further, there may be a question of whether minors can validly execute a living will, while, on the other hand, whether they are "mentally incapacitated" so as to come under the Sec. 90-322 procedures, for use in the absence of a living will.

PROSPECTS FOR FUTURE LEGISLATION

As noted, the procedures embodied in the Act were considered at the time of its enactment to be the minimum acceptable to the Legislators, including specifically the consulting team concept, numbering three physicians.

With the advantage of hindsight and the benefit of practical experience now available to the General Assembly since the Act's inception, it may be possible to achieve an alteration of the statutes in the future to create a more workable procedure while maintaining safeguards deemed essential by the General Assembly. Several questions should be considered by the Medical Society in its consideration of possible legislative refinements: Are the "living will" procedures appropriate? Should the attending physician unilaterally be authorized to diagnose the patient's condition, exercise the incompetent patient's desires as to prolonging life, and effectuate those desires in the absence of a "living will" type of declaration? If collaboration by other physicians concerning the patient's condition is advisable, what format of consultation and by what number of physicians should be required? If guidance by relatives, guardians or other representatives of the patient is appropriate, what sort should be developed? Should such guidance be in the nature of a "request" or by "informed consent"? Should the statutory definition of "extraordinary means" be altered? Should the entire statute be revised?

Obviously, compassionate, dedicated and intelligent physicians, legislators, and others concerned with good patient care may have differing responses to these questions. The heightened awareness of these issues caused by the recent amendments to the Act, which provided a clear legal, and apparently widely used, vehicle for reaction to the "no code blue" situation, can serve to stimulate dialogue among physicians and communications with their legislators concerning refinements of the Act. The Society and its Committee on Legislation solicit input on alternative legislation as well as examples from your practices which would prompt and underscore the need for such amendments.

CONCLUSION

It is hoped that this cursory overview will provide the members of the Society with some additional insight to assist them in continuing ably to meet the challenges presented by the death with dignity implications arising in the cardiopulmonary resuscitation setting. We are confident that physicians will continue to exercise their customary wise professional judgment and compassion in dealing with these medical, social, ethical, economic and legal issues. The questions of when not to use life support systems, and the effectiveness and cost of these extraordinary procedures, can invoke endless discussion and differing general conclusions.

Since there has been no guidance from North Carolina courts in the resolution of the complex legal rights involved, the 1981 amendments to North Carolina's Right to Natural Death Act were enacted to provide, for the first time, a sanctioned legal route for physicians to address the question of appropriately recognizing an incapacitated

patient's right to death with dignity. As is often the case, this legislative effort has proven at times to be a crude and imperfect vehicle which could perhaps benefit from further alteration and refinement to make it more suitable

for its intended purpose to allow physicians and others to provide competent medical service with compassion and respect for human dignity without exposure to legal liability.¹⁴

REFERENCES

1. Article 23, Chapter 90, North Carolina General Statutes.
2. The terminology derives from the development of teams of doctors and nurses trained in the administration of cardiopulmonary resuscitative measures. When a patient goes into cardiac or respiratory arrest, a notice is broadcast giving the code word and room number. A "do not resuscitate" or "no code blue" or "no code" order entered in a patient's medical record instructs that the code team not be summoned.
3. Jud. Council, Curr. Opin. of A.M.A., Op. 2.11 (1981) In case of conflict, these ethical pronouncements are subservient to legal requirements, Id., Op. 1.02.
4. See, Lewis, Machine Medicine and its Relation to the Fatally Ill, 206 J.A.M.A. 387 (1968).
5. National Conference on Standards for Cardiopulmonary Resuscitation and Emergency Cardiac Care, Standards for Cardiopulmonary Resuscitation (CPR) and Emergency Cardiac Care (ECC). 227 J.A.M.A. 837, 864 (1974).
6. Time and space do not permit analysis and review of court decisions and treatises concerning these questions. Reference is made to the following for further elaboration: In re Storar, 420 N.E. 2d 64 (N.Y., 1981); In re Quackenbush, 156 N.J.Super. 282, 383 A.2d 785 (1978); In re Dinnerstein, 380 N.E. 2d 134 (Mass. 1978); Super. of Belchertown v. Saikewicz, 370 N.E. 2d 417 (Mass. 1977); In re Quinlan, 70 N.J. 10, 355 A 2d 647 (1976); Davis, The Refusal of Life-Saving Medical Treatment vs. The State's Interest in the Preservation of Life: A Clarification of the Interests at Stake, 3 Spec. Law Dig.: Health Care, No. 5, 5 (July, 1981); Clarke, The Choice to Refuse or Withhold Medical Treatment: The Emerging Technology and Medical-Ethical Consensus, 3 Spec. Law Dig.: Health Care, No. 3, 5 (May 1981); Comment, North Carolina's Natural Death Act: Confronting Death with Dignity, 14 W.F.L. rev. 771 (1978); National Conference on Standards for Cardiopulmonary Resuscitation and Emergency Cardiac Care, Standards for Cardiopulmonary Resuscitation (CPR) and Emergency Cardiac Care (ECC), 227 J.A.M.A. 837, 864 (1974). See also Parker vs. U.S., 406 Atl. 2nd 1275. (District of Columbia - Court of Appeals, 1979). Reference is also made to other citations to treatises and authorities which are contained in our files.

7. N.C.G.S. Sec. 90-320(a).
8. N.C.G.S. Sec. 90-320(b); see, Comment, North Carolina's Natural Death Act: Confronting Death with Dignity, 14 W.F.L. Rev. 771, 782 (1978).
9. This failure to include the withholding of support in Sec. 90-322 may be attributable to the fact that the original statutory mechanics for allowing natural death in the absence of a living will required a determination that the patient was dead, as legally defined, thus making irrelevant the "withholding" question. 1977 N. C. Sess. Laws Ch. 815.
10. N.C.G.S. Sec. 90-322(a).
11. N.C.G.S. Sec. 90-323.
12. For example, the restoration of continuance of the heart beat is useless in the absence of brain function, which is specifically recognized by statute as an acceptable criterion for determining death.
13. Of course, all legislation must meet minimum constitutional requirements and any future amendment option should be screened accordingly.
14. Similar statutes concerning the subject of the right to a natural death have been enacted in other jurisdictions listed below:

Arkansas -- Ark. Stat. Ann., Secs. 82-3801 to 3804 (1976)
California -- Cal. Health & Safety Code, Secs. 7185 to 7195
(West 1976)
Idaho - Idaho Code 54-1819, 39-4501 (1979)
Kansas -- Kan. Stat. Ann. 65-28101 to 28109
Nevada - Nev. Rev. Stat., Secs. 449.540 to 690
New Mexico -- N.M. Stat. Ann. 2471 to 11; to 12-2-4; 12-35-1
(1978)
Oregon -- Or. Rev. Stat. 97050 to .090 & 146-087 (replacement
part 1977)
Texas -- Tex. Health & Safety Code Ann. Tit. 4590h, Secs. 1-11
Washington -- Wash. Rev. Code Tit. 70, Ch. 112 (1979 Washing-
ton Laws)
Alabama -- Enacted July 1981
District of Columbia -- Enacted December 1981

NORTH CAROLINA'S RIGHT TO NATURAL DEATH ACT
ARTICLE 23, CHAPTER 90, NORTH CAROLINA GENERAL STATUTES

§90-320. General purpose of Article. (a) The General Assembly hereby recognizes that an individual's rights as a citizen of this State include the right to a peaceful and natural death. This Article is to establish a procedure for the exercise of that right and to state expressly the extent of a physician's obligation to preserve the life of his patient in situations where artificial means may be used to sustain the circulatory and respiratory functions for an indefinite period.

(b) Nothing in this Article shall be construed to authorize any affirmative or deliberate act or omission to end life other than to permit the natural process of dying. Nothing in this Article shall impair or supersede any legal right or legal responsibility which any person may have to effect the withholding or withdrawal of life-sustaining procedures in any lawful manner. In such respect the provisions of this Article are cumulative.

§90-321. Right to a natural death. (a) As used in this Article the term:

(1) "Declarant" means a person who has signed a declaration in accordance with subsection (c);

(2) "Extraordinary means" is defined as any medical procedure or intervention which in the judgment of the attending physician would serve only to postpone artificially the moment of death by sustaining, restoring, or supplanting a vital function;

(3) "Physician" means any person licensed to practice medicine under Article 1 of Chapter 90 of the laws of the State of North Carolina.

(b) If a person has declared, in accordance with subsection (c) below, a desire that his life not be prolonged by extraordinary means; and the declaration has not been revoked in accordance with subsection (e); and

(1) It is determined by the attending physician that the declarant's present condition is

a. Terminal; and

b. Incurable; and

(2) There is confirmation of the declarant's present condition as set out above in subdivision (b)(1) by a physician other than the attending physician.

(c) The attending physician may rely upon a signed, witnessed, dated and proved declaration:

(1) Which expresses a desire of the declarant that no extraordinary means be used to prolong his life if his condition is determined to be terminal and incurable; and

(2) Which states that the declarant is aware that the declaration authorizes a physician to withhold or discontinue the extraordinary means; and

(3) Which has been signed by the declarant in the presence of two witnesses who believe the declarant to be of sound mind and who state that they (i) are not related within the third degree to the declarant or to the declarant's spouse, (ii) do not know or have a reasonable expectation that they would be entitled to any portion of the estate of the declarant upon his death under any will of the declarant or codicil thereto then existing or under the Intestate Succession Act as it then provides, (iii) are not the attending physician, or an employee of the attending physician, or an employee of a health facility in which the declarant is a patient, or an employee of a nursing home or any group-care home in which the declarant resides, and (iv) do not have a claim against any portion of the estate of the declarant at the time of the declaration; and

(4) Which has been proved before a clerk or assistant clerk of superior court, or a notary public who certifies substantially as set out in subsection (d) below.

(d) The following form is specifically determined to meet the requirements above:

"Declaration of A Desire For A Natural Death

"I, _____, being of sound mind, desire that my life not be prolonged by extraordinary means if my condition is determined to be terminal and incurable. I am aware and understand that this writing authorizes a physician to withhold or discontinue extraordinary means.

"This the ___ day of _____.

Signature _____

I hereby state that the declarant, _____, being of sound mind signed the above declaration in my presence and that I am not related to the declarant by blood or marriage and that I do not know or have a reasonable expectation that I would be entitled to any portion of the estate of the declarant under the existing will or codicil of the declarant or as an heir

under the Intestate Succession Act if the declarant died on this date without a will. I also state that I am not the declarant's attending physician or an employee of the declarant's attending physician, or an employee of a health facility in which the declarant is a patient or an employee of a nursing home or any group-care home where the declarant resides. I further state that I do not have any claim against the declarant.

Witness _____

Witness _____

The clerk or the assistant clerk, or a notary public may, upon proper proof, certify the declaration as follows:

"Certificate

"I, _____, Clerk (Assistant Clerk) of Superior Court or Notary Public (circle one as appropriate) for _____ County hereby certify that the declarant, appeared before me and swore to me and to the witnesses in my presence that this instrument is his Declaration Of A Desire For A Natural Death, and that he had willingly and voluntarily made and executed it as his free act and deed for the purposes expressed in it.

"I further certify that _____ and _____ witnesses, appeared before me and swore that they witnessed _____, declarant, sign the attached declaration, believing him to be of sound mind; and also swore that at the time they witnessed the declaration (i) they were not related within the third degree to the declarant or to the declarant's spouse, and (ii) they did not know or have a reasonable expectation that they would be entitled to any portion of the estate of the declarant upon the declarant's death under any will of the declarant or codicil thereto then existing or under the Intestate Succession Act as it provides at that time, and (iii) they were not a physician attending the declarant or an employee of an attending physician or an employee of a health facility in which the declarant was a patient or an employee of a nursing home or any group-care home in which the declarant resided, and (iv) they did not have a claim against the declarant. I further certify that I am satisfied as to the genuineness and due execution of the declaration.

This the ____ day of _____.

Clerk (Assistant Clerk) of
Superior Court or Notary Public
(circle one as appropriate)
for the County of _____."

The above declaration may be proved by the clerk or the assistant clerk, or a notary public in the following manner:

(1) Upon the testimony of the two witnesses; or

(2) If the testimony of only one witness is available, then

a. Upon the testimony of such witness, and

b. Upon proof of the handwriting of the witness who is dead or whose testimony is otherwise unavailable, and

c. Upon proof of the handwriting of the declarant, unless he signed by his mark; or upon proof of such other circumstances as will satisfy the clerk or assistant clerk of the superior court, or a notary public as to the genuineness and due execution of the declaration.

(3) If the testimony of none of the witnesses is available, such declaration may be proved by the clerk or assistant clerk, or a notary public

a. Upon proof of the handwriting of the two witnesses whose testimony is unavailable, and

b. Upon compliance with paragraph c of subdivision (2) above.

Due execution may be established, where the evidence required above is unavoidably lacking or inadequate, by testimony of other competent witnesses as to the requisite facts.

The testimony of a witness is unavailable within the meaning of this subsection when the witness is dead, out of the State, not to be found within the State, insane or otherwise incompetent, physically unable to testify or refuses to testify.

If the testimony of one or both of the witnesses is not available the clerk or the assistant clerk, or a notary public of superior court may, upon proper proof, certify the declaration as follows:

"Certificate

"I, _____, Clerk (Assistant Clerk) of Court for the Superior Court or Notary Public (circle one as appropriate) of _____ County, hereby certify that based upon the

evidence before me I am satisfied as to the genuineness and due execution of the attached declaration by _____, declarant, and that the declarant's signature was witnessed by _____ and _____, who at the time of the declaration met the qualifications of G.S. 90-321(c)(3).

"This the ____ day of _____.

Clerk (Assistant Clerk) of
Superior Court or Notary Public
(circle one as appropriate) for
_____ County."

(e) The above declaration may be revoked by the declarant in any manner by which he is able to communicate his intent to revoke, without regard to his mental or physical condition. Such revocation shall become effective only upon communication to the attending physician by the declarant or by an individual acting on behalf of the declarant.

(f) The execution and consummation of declarations made in accordance with subsection (c) shall not constitute suicide for any purpose.

(g) No person shall be required to sign a declaration in accordance with subsection (c) as a condition for becoming insured under any insurance contract or for receiving any medical treatment.

(h) The withholding or discontinuance of extraordinary means in accordance with this section shall not be considered the cause of death for any civil or criminal purposes nor shall it be considered unprofessional conduct. Any person, institution or facility against whom criminal or civil liability is asserted because of conduct in compliance with this section may interpose this section as a defense.

(i) Any certificate in the form provided by this section prior to July 1, 1979, shall continue to be valid.

§90-322. Procedures for natural death in the absence of a declaration.

(a) If a person is comatose and there is no reasonable possibility that he will return to a cognitive sapient state, or is mentally incapacitated, and:

(1) It is determined by the attending physician that the person's present condition is:

- a. Terminal; and
- b. Incurable; and
- c. Irreversible; and

(2) There is confirmation of the person's present condition as set out above in this subsection, by a majority of a committee of three physicians other than the attending physician; and

(3) A vital function of the person could be restored by extraordinary means or a vital function of the person is being sustained by extraordinary means; then extraordinary means may be withheld or discontinued in accordance with subsection (b).

(b) If a person's condition has been determined to meet the conditions set forth in subsection (a) and no instrument has been executed as provided in G.S. 90-321 the extraordinary means to prolong life may be withheld or discontinued upon the direction and under the supervision of the attending physician at the request (i) of the person's spouse, or (ii) of a guardian of the person, or (iii) of a majority of the relatives of the first degree, in that order. If none of the above is available, then at the discretion of the attending physician the extraordinary means may be discontinued upon the direction and under the supervision of the attending physician.

(c) Repealed by Session Laws 1979, c.715,s.2.

(d) The withholding or discontinuance of such extraordinary means shall not be considered the cause of death for any civil or criminal purpose nor shall it be considered unprofessional conduct. Any person, institution or facility against whom criminal or civil liability is asserted because of conduct in compliance with this section may interpose this section as a defense.

§90-323. Death: determination by physician. The determination that a person is dead shall be made by a physician licensed to practice medicine applying ordinary and accepted standards of medical practice. Brain death, defined as irreversible cessation of total brain function, may be used as a sole basis for the determination that a person has died, particularly when brain death occurs in the presence of artificially maintained respiratory and circulatory functions. This specific recognition of brain death as a criterion of death of the person shall not preclude the use of other medically recognized criteria for determining whether and when a person has died.

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Unemployment: The Health Consequences in Children

Lewis H. Margolis, M.D., M.P.H., and Dale Farran, Ph.D.

ABSTRACT This study reports the risk of illness to the children of workers who have recently lost their jobs. The medical histories of 31 children were obtained. The 18 children of the recently unemployed workers appeared to be at greater risk than the 13 children of retained workers for (1) episodes of illness in general, (2) infectious illnesses and (3) illnesses of longer duration. In addition, the risk of illness appeared to be greater at the time of the layoff and diminished over the succeeding months. Policies are needed to ameliorate the effects on children of parental unemployment.

ACCORDING to the Office of Management and Budget, the ranks of the unemployed will grow by one million people in 1981. Because they lack seniority, workers who are released tend to be younger than those retained. As young adults, these individuals are more likely to have children, and particularly younger children, than their employed colleagues. Consequently, hundreds of thousands of children will experience the stress and dislocation which results from the loss of work.

Cassel,¹ in examining the relationship between the social environment and health, argued that stress heightens the vulnerability of

individuals to illness. Coddington² utilized an index of stressful events for children to demonstrate an association between recent stressful experiences and illness. Even though many of Coddington's events impacted mainly on the family and only indirectly on the child, the stress seemed to affect the social environment of the child and to increase the susceptibility to illness.

The loss of work represents a major economic,³ psychological⁴ and physical⁵ insult to adults, but the consequences in the children of recently unemployed workers have been inadequately investigated. Because of the lack of research on this problem, we are reporting our initial findings about the risk of illness in the children of families whose primary wage earner has recently become unemployed.

METHODS

In order to examine the children's health consequences, we utilized a retrospective, cohort method. Nine months after several hundred workers were laid off by one company, questionnaires were sent to two groups: (1) terminated hourly workers whose children were therefore exposed (E) to unemployment and (2) retained hourly workers, whose children were unexposed (\bar{E}). The names were randomly selected beginning with workers 25 years of age and ending after each sample of 100 was filled. The participants were informed only that the relationship between parents' work experiences and children's health was under

study; they were unaware of the hypothesis associating ill health with unemployment.

The participants were asked to complete a two-part questionnaire. The first part sought information on parental work history and demographic characteristics. The second part, using a standard health inventory, elicited information on the health of the children during the preceding nine months.

RESULTS

The demographic characteristics of the two groups of families are shown in Table I. Of the 31 children studied, 18 were in families in which the primary wage earner became unemployed and 13 were in families with continuous employment. In all eight families of the employed workers, the father was the primary wage earner. In the 10 families of the unemployed, the father was the primary wage earner in the eight two-parent families. The duration of joblessness ranged from one to 36 weeks, when the data collection ended. We attribute the low overall response rate of 10% to the fact that the study was not sponsored by the company or a labor union.

The children from both groups experienced a total of 158 episodes of illness. Infectious illnesses, consisting of respiratory and gastrointestinal diseases, caused 92% of these episodes. Immunological illnesses, consisting of asthma attacks and eczema, caused 4% of the illnesses. Other illnesses, such as fractures, caused the remaining 4%.

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Reprint requests to Dr. Margolis.

TABLE I: DEMOGRAPHIC CHARACTERISTICS

| | Terminated Workers | Retained Workers | P |
|---|-----------------------|---------------------|---------------|
| Number of Children | 18 | 13 | — |
| Children Per Family | 1.7 | 1.8 | — |
| Mean Age (Years \pm S.D.) | 7.8 \pm 4.9 | 8.6 \pm 3.8 | $p < .45$ |
| Proportion of families with only one wage earner | 60% (6/10) | 50% (4/8) | .1 $< p < .5$ |

Stratified analysis was performed, arbitrarily defining "diseased" (D) as greater than or equal to five episodes of illness and "non-diseased" (\bar{D}) as fewer than five episodes of illness.

Results are shown in Table II. The crude risk ratio of 1.32 suggests that the children of the unemployed were at greater risk of general illness than their compeers. A risk ratio of 1 would indicate no effect of unemployment.

Adjusting for the effects of age, using intervals of four years, the adjusted risk ratio (Table II) still suggests a risk for the children of the unemployed. In risk ratios not displayed here, the children of the unemployed also appear to be at increased risk for infectious disease alone as well as illnesses of longer duration. This trend of risk ratios greater than 1 warrants replication on a larger sample in order to establish statistical significance.

Correlations between selected outcomes and duration of joblessness are shown in Table III. Although the sample size limits statistical power, the correlation coefficients suggest that the incidence of illness is not correlated with the duration of joblessness and that frequency decreases with time. The children appeared to be at greatest risk around the time of the event of the loss of work by their parents.

DISCUSSION

As Coddington² and Holmes and Rahe⁶ have suggested, the loss of work represents a stressful life event for children and adults. Using physical examinations, clinical chemistries and psychological assessments, Cobb and Kasl⁵ documented complex effects of recent unemployment for adults. In the children of recently unemployed

TABLE II: RISK OF ILLNESS

| | E | \bar{E} | Total |
|-----------|----|-----------|-------|
| D | 11 | 6 | 17 |
| \bar{D} | 7 | 7 | 14 |
| Total | 18 | 13 | 31 |

Risk ratio: 1.32

95% confidence interval: (.66,2.62)

Chi square = 0.632 ($p = 0.2$)

Age-adjusted risk ratio: 1.25

95% confidence interval: (.78,1.98)

Overall chi square = 1.91 ($p = 0.08$)

workers, previous investigations⁷ have focused on child abuse. Unemployment represents a stress which can stimulate an incident in parents already at risk for abusing their children.⁸

Our results suggest that the children of recently unemployed are at increased risk of illness. In addition, the heightened vulnerability of these children seems to be greatest at the time of the layoff and then decreases as the families and children adjust to the circumstances of unemployment. Presumably, however, after some period of time the economic conditions of the families would deteriorate to the point that the children would suffer the detrimental consequences of poverty.

The association between the loss of work and ill health may be modified by several factors which we are in the process of analyzing. These factors include parental physical

and mental health, the quantity and adequacy of social supports and the occurrence of other stressful events.¹

The small number of participants in this pilot study limits generalization. However, given the existence of recurrent unemployment within the economy, this study warrants repetition on a larger scale. The fact that unemployment has pervasive effects creates important implications both for health care and economic policies. Those who provide health care to children should be aware of major economic changes within the family as well as the usual economic status. As with other important stresses,⁹ professionals may be able to assist individual children of the unemployed in coping with this particular stress. More importantly, attention should be directed to unemployment policies. If the dismissal of workers is unavoidable, there should be company and governmental programs to ameliorate the non-economic effects in both workers and their children.

Acknowledgment

We would like to thank Cecil Slome, M.D. and Michael Ibrahim, M.D., for reviewing the manuscript.

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TABLE III: CORRELATIONS BETWEEN SELECTED OUTCOMES AND THE DURATION OF JOBLESSNESS

| | r | p |
|----------------------------------|-------|-----------------|
| Episodes of all illnesses | -.162 | .15 $< p < .25$ |
| Episodes of infectious illnesses | -.203 | .10 $< p < .15$ |
| Days of all illnesses | -.111 | .25 $< p < .35$ |
| Days of infectious illnesses | -.118 | .25 $< p < .35$ |

Child Abuse or Neglect of Resident Live Births, Durham County, North Carolina

Craig D. Turnbull, M.P.H., Ph.D., John D. Fletcher, M.D., M.P.H., and Delton Atkinson, M.P.H.

ABSTRACT Documented cases of child abuse or neglect (CAN) in Durham County, N.C., over a three-year period are reviewed and the social and demographic histories of the involved families are described. The cases studied are thought to represent a small portion of the actual CAN incidents in the county during this period.

INTRODUCTION

THIS communication focuses on some demographic and social characteristics of families involved in documented cases of child abuse or neglect (CAN) in Durham County, N.C., from January 1, 1975, through December 31, 1977.

Studies by Schloesser,¹ Henry et al.,² and DeFrancis³ reveal that 56% to 72% of abused children are under three years of age. Lynch and Roberts⁴ report many abusing mothers were under 20 years of age at the time of the birth of the abused child.

Men are more likely than women to abuse a child,⁵⁻⁷ but women are more deadly — that is, given a case of child abuse, women kill their children more often.³

Steele and Pollack⁷ and Gelles⁸ suggest that individuals from lower

socioeconomic groups are more likely to inflict CAN than are those from higher socioeconomic groups. However, Wethers⁹ data do not corroborate this finding. In addition, the President's Commission on Mental Health¹⁰ reports:

"Abuse is not limited to a particular socioeconomic strata, although the agencies and individuals coming into contact with these cases appear to vary with class. Members of the more privileged classes tend to use private physicians and psychologists (who may be less likely to report events to public authorities) while poorer families are processed in county agencies, such as welfare departments and the like."

Low birthweight infants are at high risk of abuse since they usually require more attention than higher birthweight infants.¹¹⁻¹³

Both the President's Commission on Mental Health¹⁰ and Bottom¹⁴ note the most common thread among abusive parents is a history of CAN in their earlier years. This finding is more universal than the effects of race, socioeconomic status, living conditions, educational attainment, psychiatric state, cultural milieu or family status.^{10,15}

METHOD

A voluntary CAN law was enacted by the North Carolina General Assembly in 1965. This law was made mandatory in 1971.

Chapter 110, Article 8, Sections 110 to 122 of the North Carolina

General Statutes¹⁶ describes the intent of this law: "... to identify any children suspected to be neglected or abused and to assure that protective services will be made available to such children and their families as quickly as possible to the end that such children will be protected, that further abuse or neglect will be prevented, and to preserve the family life of the parties involved where possible by enhancing parental capacity for good child care." The law requires all professionals (physicians, dentists, osteopaths, optometrists, chiropractors, podiatrists, social workers, personnel in public or private schools, etc.) to report cases of CAN.

This communication refers to cases of child abuse or child neglect (CAN) since available data did not distinguish child abuse from child neglect.

From January 1, 1975, through December 31, 1977, 272 cases of CAN substantiated through court proceedings occurred to children born in Durham County, N.C. Birth certificates for these cases were reviewed by the staff of the Durham County Health Department to elicit the following data:

- (1) maternal age
- (2) level of parity
- (3) educational attainment (maternal)
- (4) marital status
- (5) race of offspring

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- (6) age of child at time of CAN
- (7) paternal age
- (8) educational attainment (paternal)
- (9) birthweight

Select levels of the first five variables have been proposed as indicators of high risk of infant mortality for North Carolina and Durham County,^{17,18} as well as useful in identifying those eligible for the EPSDT (Early and Periodic Screening, Diagnosis and Treatment) Program in Durham County.¹⁹

This study is an observational, retrospective description of cases of CAN (numerator analysis). The authors do not wish to imply that only 272 cases of CAN occurred in Durham County during the period under study since:

- (1) additional substantiated cases of CAN occurred to children who were not born in Durham County,
- (2) CAN cases might have been reported but not substantiated,
- (3) it is commonly acknowledged that not all CAN cases are reported — that is, the data under study represent only the tip of an iceberg.

RESULTS

Race

Of the 272 CAN cases, 162 (60%) were nonwhite and 110 (40%) were white. As noted below, all but one of the social and demographic characteristics studied did not differ significantly by racial group.

Age

Table I reveals a mean (\pm SE) CAN age of 7.2 (\pm 0.3) years. This mean age is substantially higher than that reported by others,¹⁻³ although the modal age was 3 to 4 years. There was no racial difference with respect to mean age of CAN.

In terms of the parents, the mean (\pm SE) age at the birth was 22.2 (\pm 0.4) for mothers and 26.5 (\pm 0.5) for fathers.* The mean (\pm SE) age of

Table I. Characteristics of Child Abuse or Neglect (CAN) Cases, Durham County, NC, 1975-77

| Characteristic | Nonwhite | White | Total |
|------------------------------|---------------------|---------------------|---------------------|
| Age of child at time of CAN | 7.2 \pm .3 (162)* | 7.2 \pm .5 (110) | 7.2 \pm .3 (272) |
| Maternal age | 21.7 \pm .5 (162) | 23.0 \pm .5 (110) | 22.2 \pm .4 (272) |
| Paternal age | 27.2 \pm .8 (93) | 25.8 \pm .6 (104) | 26.5 \pm .5 (197) |
| Age of mother at time of CAN | 28.9 \pm .6 (162) | 30.3 \pm .7 (110) | 29.5 \pm .5 (272) |
| Maternal education | 9.8 \pm .2 (90) | 9.8 \pm .3 (66) | 9.8 \pm .2 (156) |
| Paternal education | 10.5 \pm .4 (41) | 9.7 \pm .4 (60) | 10.0 \pm .3 (101) |
| Birthweight | 6.6 \pm .1 (162) | 6.7 \pm .1 (109) | 6.6 \pm .1 (271) |

* $\bar{X} \pm$ SE (n)

the mother at the time of the CAN case was 29.5 (\pm 0.5) years. Again, there was no significant racial difference (see Table I).

Education

Educational data on both parents were not available for many of the CAN cases. Since better reporting occurred for mothers than for fathers, only the former data are discussed (see Table I). The data revealed that regardless of race the mean (\pm SE) educational attainment of the mother was 9.8 (\pm 0.2) years. In addition, 75% of the mothers involved in a CAN case, given that unknown educational attainment was ignored, did not complete high school — 72% for whites and 78% for nonwhites.

Parity

Approximately two-thirds of CAN cases were children born into families which had at least one other child. Further, 26% were born into families which had three or more siblings. These findings do not vary to a great extent by race (see Table II).

Marital status

Table III reveals a significant ($p < 0.005$) association between racial group and marital status (at the time of the birth of the abused or neglected child). Nonwhites who delivered offspring out-of-wedlock were more likely to eventually abuse or neglect this offspring than were whites.

Premature birth

Fifteen percent of children involved were premature (5.5 lbs. or less) at birth. This finding did not differ by race even though nonwhites generally produce offspring of lower birthweight than whites.²⁰ Table I reveals a mean birthweight of 6.6 lbs.

Single and multiple cases of CAN

The 272 CAN cases were divided into two groups: those cases involving more than one child in the same family or the same child more than once during the three-year period under study and those cases involving families only once.

Sixty-five percent of the CAN

Table II. Number and Percentage of CAN Cases by Level of Parity and Race, Durham County, NC, 1975-77.

| Parity* | Racial group | | | | Total |
|---------|--------------|---------|----------|---------|-------|
| | White | | Nonwhite | | |
| | Number | Percent | Number | Percent | |
| 1 | 40 | 36 | 52 | 32 | 92 |
| 2-3 | 44 | 40 | 66 | 41 | 110 |
| 4-6 | 24 | 22 | 36 | 22 | 60 |
| 7+ | 2 | 2 | 8 | 5 | 10 |
| Total | 110 | 100 | 162 | 100 | 272 |

*Number of prior pregnancies, including the CAN case. The description of these data exclude the CAN case.

*The age of fathers was not well reported on the birth certificates, especially for nonwhite fathers. While 104 out of 110 white fathers had ages reported, only 93 out of 162 nonwhite fathers' ages were reported.

Table III. Number of Observed and Expected Cases of CAN by Marital Status and Race, Durham County, NC, 1975-77.

| Marital Status ¹ | Racial group | | | | Total |
|-----------------------------|---------------------------------|--------------------|--------------------|--------------------|-------|
| | White | | Nonwhite | | |
| | Observed ² Number | Expected Number | Observed Number | Expected Number | |
| Out-of-wedlock | 6 | 30 | 68 | 44 | 74 |
| Not out-of-wedlock | 103 | 79 | 94 | 118 | 197 |
| Total | 109 | — | 162 | — | 271 |

$X^2 (1) = 44.46, p < 0.005$

¹Marital status at time of birth of the eventual case of CAN.

²Marital status of one parturient was unknown.

cases (177 of 272) were in the former group (multiple cases). The majority of the mothers in this group were between 20 and 34 years of age at the time the child was born; however, 38% of the children were born when they were under 20 years of age.

In the latter group (single case), 53% were less than 20 years of age when the child was born.

CONCLUSIONS

The findings are tentative, but suggestive.

- (1) The average abused or neglected child was born to a

22-year-old woman who was involved in committing CAN seven years later;

- (2) This woman completed less than 10 years of education;
- (3) Most (66%) of abused children were born into families which had at least one other sibling; and
- (4) Most (65%) of abuse or neglect cases involved more than one child in the same family or the same child more than once during the three-year period under study.

Acknowledgment

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Cantharides, whether taken internally or absorbed by the skin, frequently renders the urine for a short time highly albuminous. I am not aware that edema or any of the constitutional symptoms of tubal nephritis have ever been traced to this cause. The urine appears to acquire an irritating property, which acts most powerfully and injuriously upon the mucous surfaces, the pelvis, bladder, and urethra, while the kidneys themselves are affected in the same manner, but to a less extent. In such cases the urine contains renal epithelium and casts of the tubes, as in nephritis from other causes, though the disturbance is of a slight and temporary nature. There can be no doubt that the renal disorder thus produced is of the nature of tubal nephritis. — Dickinson WH. *A Treatise on Albuminuria*. 2nd ed. New York: William Wood & Company, 1881.

Sleep Disorders

Part II: Disorders of Excessive Somnolence

J. Ingram Walker, M.D.

THE disorders of excessive somnolence (DOES) include symptoms of inappropriate sleepiness during waking hours, unavoidable napping, and difficulty in achievement of full arousal on awakening.¹ These patients chronically feel sleepy no matter how many hours they actually sleep. Guilleminault and Dement² reported 235 excessive daytime sleepiness (EDS) cases from a total of nearly 600 referrals to the Stanford Sleep Clinic in the past five years. The most common causes of DOES were narcolepsy, 145 patients (65%); sleep apnea, 33 patients (20%); narcolepsy with sleep apnea, 10 patients (4%); and drug dependency, 8 patients (3.4%).

Figure 1 shows a schema of the recommended diagnostic strategy that should be employed when a patient presents with a complaint of excessive daytime sleepiness. After a thorough physical and neurological examination, appropriate questioning of the patient and the patient's bed partner can elicit historical clues to the diagnosis. The first step in diagnosing DOES is to elicit a history of cataplexy by asking the patient, "Do you have peculiar attacks of muscular weakness precipitated by strong emotions such as laughter or anger?" If the answer is affirmative, a diagnosis of narcolepsy can be presumed. In the Guilleminault and Dement study,² 65% of individuals

answered affirmatively and were diagnosed as narcoleptic. The second question, "Do you snore?" will help spot patients with sleep apnea (with or without narcolepsy). When these two areas have been ruled out, the third question should be: "What medications have you used chronically during the last few months or years?" Chronic use of stimulants, hypnotics, and some other drugs can result in excessive daytime sleepiness. The diagnosis is confirmed after controlled drug withdrawal alleviates the complaint. Patients who respond negatively to the three questions will

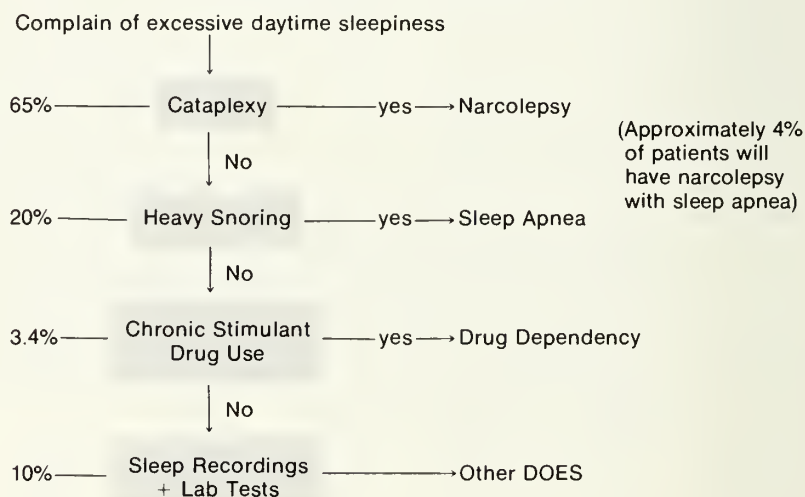
probably have a disorder that requires extensive sleep laboratory testing for diagnosis.

NARCOLEPSY

Narcolepsy, a syndrome consisting of an abnormal manifestation of rapid eye movement (REM) sleep, is marked by the tetrad of symptoms: cataplexy, hypnagogic hallucinations, sleep paralysis, and excessive daytime sleepiness.³ Cataplectic attacks may consist of either brief, almost imperceptible weakness of isolated muscle groups or a sudden paralysis of all skeletal muscles with

Figure 1

Schema for Diagnosing DOES*



*Based on Guilleminault C, Dement WC: 235 cases of excessive daytime sleepiness: diagnosis and tentative classification. *J Neurol Sci* 31:23, 1977.

complete postural collapse. Cataleptic episodes are almost always triggered by intense emotion such as laughter, joy, fear, or anger. The frequency of occurrence varies widely from less than one a week to numerous attacks in a single day.

Sleep paralysis and hypnagogic hallucinations occur separately or in combination in about half the patients with narcolepsy.¹ Sleep paralysis is characterized by the inability to move when falling asleep; this frightening experience lasts for only one or two minutes at a time. Hypnagogic hallucinations are vivid dreamlike experiences occurring at sleep onset or on awakening. These hallucinations are secondary to REM activity.

Narcolepsy generally begins in the second decade of life with sleep attacks commencing several years before cataplexy. Narcolepsy, estimated to occur in four cases per 10,000, is found equally in both sexes.¹ Relatives of narcoleptic index cases have a 60-fold greater risk of having the disorder than do people in the general population.⁴

The most characteristic polysomnographic feature of narcolepsy is the occurrence of sleep onset REM periods.¹ Sleep onset REM periods may occur in other conditions such as drug withdrawal, previous sleep deprivation, alcoholism, psychotic depression, and some sleep-wake schedule variations. After these conditions are ruled out, however, the occurrence of sleep onset REM periods is highly diagnostic of narcolepsy.

After an extensive review of the literature, Guilleminault and Dement² concluded that patients complaining of EDS in conjunction with cataplexy can be diagnosed as having narcolepsy without a sleep recording. Guilleminault and Dement² found five of their 235 patients who were diagnosed as narcoleptic on the basis of sleep onset REM but without cataplexy. Thus, there is a subcategory of narcoleptics whose major complaints are sleepiness and who may not develop cataplexy until as long as 20 or 30 years after the onset of the narcoleptic symptoms.⁵

Narcolepsy can be treated with a

combination of imipramine (25-50 mg three times daily) and methylphenidate (5-10 mg three times daily). Imipramine suppresses REM and methylphenidate decreases sleep attacks.⁶

SLEEP APNEA ASSOCIATED WITH AIRWAY OBSTRUCTION

A potentially lethal condition, sleep apnea, is characterized by multiple obstructive apneas during sleep associated with repetitive episodes of inordinately loud snoring and excessive daytime sleepiness.¹ The snoring pattern in this disorder is characterized by inspiratory snores gradually increasing when obstruction of the upper airway develops. As the patient's respiratory efforts succeed in overcoming the upper airway obstruction, loud, choking inspiratory gasps occur. Generally the patient is unaware of the breathing difficulty. Upon close questioning, the bed partner reports that the patient frequently stops breathing for durations of a minute or more through the night and resumes breathing only after a struggle. In addition, the patient's sleep is often disturbed with violent thrashing in the bed. As many as 600 to 800 episodes of prolonged cessation of breathing may occur during one night.⁷ Daytime sleep attacks tend to last for more than one hour and be unrefreshing.⁴

Although the exact prevalence of sleep apnea is unknown, Clark⁷ reports that at the Sleep Disorders Evaluation Center of Ohio State University four to six new cases of sleep apnea are seen per week, and three new cases of sleep apnea are seen for each case of narcolepsy. Sleep apnea occurs in a male-to-female ratio of 30:1.¹ Ten of 235 patients were found to have narcolepsy in association with sleep apnea.² Sleep apnea occurs at all ages but is more frequently diagnosed in those patients 40 years of age or older; 11 of the 54 patients with sleep apnea in Guilleminault and Dement's² study were children. In children, upper airway sleep apnea is accompanied by a decreasing achievement in school and a history of recurrence of nocturnal

enuresis after toilet training has been accomplished.⁸

While snoring is almost always present with sleep apnea, it is important that the physician not equate loud snoring alone with sleep apnea. Most patients who snore loudly demonstrate little airway blockage of any consequence.

Sleep apnea can be differentiated from narcolepsy by persistent and pervasive sleepiness unrelieved by short refreshing naps, prolonged naps that leave the patient groggy, characteristic snoring and motor restlessness during sleep, postdormital headaches, absence of cataplexy, and more variable age of onset.¹ Because classic narcolepsy and sleep apnea may co-exist, the individual should be thoroughly diagnosed with polysomnography to avoid giving stimulants to an individual with sleep apnea, as stimulants can lead to progressive worsening of ventilatory failure during sleep. If sleep apnea is suspected, referral to a sleep evaluation center for polysomnography can provide a definitive diagnosis.⁹

Three types of sleep apnea can be distinguished by polysomnography:⁴

- (1) Central apnea—caused by loss of automatic control of respiration ("Ondine's Curse")
- (2) Obstructive apnea—characterized by cessation of airflow despite persistent respiratory efforts
- (3) Mixed central and obstructive apnea—characterized by the occurrence of a central phase (no airflow and no respiratory effort) followed by an obstructive phase in the latter part of the episode.

Patients with central apnea present with insomnia as the chief complaint; those with obstructive and mixed apneas usually present with the complaint of excessive daytime sleepiness. The course of upper airway sleep apnea is generally progressive and chronic, eventually leading to profound impairment and life threatening complications. Medical complications are secondary to the extreme respiratory effort of trying to breathe

against an upper airway obstruction or result from chronic hypoxemia associated with apnea. During sleep, most apnea patients show marked elevation of blood pressure. As the illness progresses, daytime hypertension develops also. Sinus arrhythmia, second degree heart block, ventricular tachycardia, and sudden asystoles are commonly observed in association with sleep apneas.¹⁰ A patient with right heart failure without other identifiable causes, who is observed by medical personnel to block his upper airway repeatedly during sleep for a prolonged period of time, with cyanosis and violent struggling, should be considered to have sleep apnea.⁷

Although sleep apneas can occasionally be caused by mechanical abnormalities such as excessive fat deposits, an abnormally thick soft palate, or micrognathia, the most common cause of sleep apnea is a sudden, disturbing and reflexive collapse of the upper airways.¹⁰ In patients with severe cardiac arrhythmias or hypertension associated with sleep apnea, a special type of permanent tracheostomy gives a dramatic relief and is considered the treatment of choice. The opening of the tracheostomy is closed during the day for normal breathing and opened before sleep at night. Using this treatment, excessive daytime sleepiness disappears within a few days, cardiac arrhythmias gradually improve, and the blood pressure returns to normal within two or three months.¹⁰

Management of less severe cases varies between sleep disorder centers. Clark⁷ recommends eliminating aggravating factors such as hypnotics and propranolol. In addition, upper respiratory infections and gastroesophageal problems should be vigorously treated. The patient should be encouraged to maintain normal weight. Sleeping may be improved by a semi-upright position. Protriptyline (Vivactil®), a non-sedating tricyclic antidepressant, improves upper airway coordination and enhances ventilatory drive in patients with moderate degrees of sleep apnea. Protriptyline also has a specific efficacy against ancillary symptoms of narcolepsy and can

elicit partial or complete control of sleep attacks. Dosages should be started low (2.5-5.0 mg per day) and increased gradually.⁷

DISORDERS OF EXCESSIVE SOMNOLENCE SECONDARY TO DRUGS

Eight of the 235 patients who complained of excessive daytime sleepiness in Guilleminault and Dement's study had drug dependency — hypersomnia secondary to amphetamine withdrawal.² Tolerance and dependency to amphetamines, coffee, or other stimulants can develop, eventually leading to a paradoxical increase in daytime sleepiness.¹⁰ The diagnosis of an excessive daytime sleepiness syndrome due to drug dependency can be made in the absence of heavy snoring or cataplexy, with a history of chronic use of stimulant medication. Conclusive evidence can be obtained by progressive withdrawal of the medication under carefully controlled conditions.¹

Sustained use of central nervous system (CNS) depressants such as opiates, barbiturates, antihistamines, anxiolytics and alcohol can produce daytime drowsiness and frequent napping. With prolonged drug use polysomnography reveals a reduction in REM and delta sleep.¹

FUNCTIONAL DISORDERS

The diagnosis of EDS secondary to psychiatric illness is one of exclusion. Sleepiness and excessive napping can occur secondary to most psychiatric conditions including schizophrenia, personality disorders, and dissociative states. Some depressed individuals may have hypersomnia and periods of insomnia during different stages of the same episode of depression. In the Guilleminault and Dement study,² three of the 235 patients received the diagnosis of EDS as a result of a depressive syndrome. A careful psychiatric interview aided by psychometric tests such as the MMPI and the Zung depression scale were necessary to uncover this condition.

IDIOPATHIC CNS HYPERSOMNOLENCE

Idiopathic CNS hypersomnolence is characterized by recurrent daytime sleepiness and lengthy non-refreshing naps preceded by long periods of drowsiness.¹ If sleep is resisted, hundreds of "microsleeps" associated with automatic behavior occur; the condition is most often familial. The syndrome is estimated to account for 12% to 15% of patients who complain of excessive daytime sleepiness.¹ Often more disabling than narcolepsy, idiopathic CNS hypersomnolence fails to respond to CNS stimulants such as amphetamines or methylphenidate.¹ Methysergide alleviates the primary symptoms of idiopathic CNS hypersomnolence in a number of cases implicating serotonin in the etiology.¹

KLEINE-LEVIN SYNDROME

The Kleine-Levin syndrome, generally ascribed to an intermittent organic dysfunction in limbic or hypothalamic structures, is a relatively rare disorder characterized by periodic episodes of deep sleep associated with hyperphagia and abnormal mental states.¹ Although there have been only approximately 100 cases of Kleine-Levin syndrome reported, the bizarre behavior of these patients causes the syndrome to be confused with several primary psychiatric disorders.⁴ The unusual behavior frequently involves loss of sexual inhibitions, delusions and hallucinations, frank disorientation, memory impairment, incoherent speech, and belligerence. Periodic attacks of somnolence may last for days or weeks. When the individual is aroused he becomes irritable and wants to be left alone so that he can go back to sleep.¹¹ Usually the patient is abnormally hungry and eats excessively. The disorder, found mostly in males, begins in adolescence; with time there is spontaneous disappearance of the syndrome.¹² The average period between attacks is five months.

There is no specific treatment available for Kleine-Levin syndrome but reassurance that the

condition is intermittent and usually self-limited can be helpful. A diagnosis of manic depressive disorder, schizophrenia, drug intoxication, hysteria and neoplastic or inflammatory conditions should be ruled out.

MENSTRUAL ASSOCIATED HYPERSONNOLENCE

Occasionally intermittent, marked hypersomnolence occurs with the onset of menses. This condition, considered a variant of Kleine-Levin syndrome, may also involve voracious eating and bizarre behavior. The intervals between menstruation should be characterized by relatively normal patterns of sleep. A careful drug history should be obtained to rule out use of sedating analgesics at times of menstrual discomfort. A thorough neurological evaluation is necessary to rule out lesions in the temporal or limbic structures. This condition may be an exaggerated form of pre-menstrual tension.⁴

DAYTIME SLEEPINESS RELATED TO NOCTURNAL MYOCLONUS (RESTLESS LEGS)

Occasionally patients with nocturnal myoclonus, or restless leg syndrome, may present with the chief complaint of excessive daytime sleepiness.¹

When sleep related nocturnal myoclonus presents as an excessive daytime somnolence the possibility of narcolepsy or sleep apnea should be entertained. Nocturnal myoclonus, however, does not present with obligatory naps, hypnagogic imagery, cataplexy, or gasping apneic respiration. Polysomnography seals the diagnosis.

OTHER CAUSES OF EXCESSIVE DAYTIME SLEEPINESS

Excessive somnolence can occur following a recent life change or conflict. Most of the endocrine, metabolic, neurologic, toxic and environmental conditions that produce insomnia can also contribute to daytime sleepiness either directly or as a result of sleep deprivation at night.¹ Excessive daytime sleepiness can also result from head

trauma or hydrocephalus.⁴ Alveolar hypoventilation syndrome, caused by a variety of CNS and non-CNS factors, is a rare condition marked by impaired ventilation in sleep without apneic episodes.¹ Some patients complain of excessive daytime sleepiness with no objective finding; these individuals may be hypochondriacal or malingerers seeking drugs, but most likely the condition represents a sleep-wake disorder that is yet to be explained in the sleep laboratories.¹

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Many other substances have the property, when taken into the system, of rendering the urine temporarily albuminous, or, in other words, of setting up nephritis of a more or less mild sort. What has been described as toxic albuminuria appears to be generally of this nature. Among such substances cantharides deserves the most prominent mention, but the property of acting as renal irritants is shared by many vegetable preparations of the terebinthinate class, by phosphorus and arsenic, the irritating properties of which are manifested upon every tissue with which they are brought into relation, and by certain metals, such as lead and mercury, the action of which may be of the same kind, but as to which it is more easy to say that they make the urine albuminous than to define the process by which they do so. — Dickinson WH. *A Treatise on Albuminuria*. 2nd ed. New York: William Wood & Company, 1881.

Toxic Encounters of the Dangerous Kind

Diphenoxylate (Lomotil)

The FDA states that Lomotil, a combination of diphenoxylate hydrochloride (a synthetic analogue of meperidine and atropine), is contraindicated for children under the age of two years; many of us who care for children believe it should not be used in children *over two years either*. The therapeutic index of this anti-diarrheal medication in children is quite low, i.e., there is a very narrow range between therapeutic and toxic dosage. Furthermore, the amount ingested by a child probably has no correlation with response; some children develop severe toxicity after ingesting a relatively small dose.

Lomotil has many potential dangers. Because diphenoxylate acts primarily to decrease bowel motility, it can allow pathogens such as *Shigella* increased time for proliferation, toxin production or mucosal invasion. Marked intestinal sequestration of fluid and electrolytes can occur. In patients with inflammatory bowel "toxic megacolon" can occur and the development of antibiotic-associated pseudomembranous enterocolitis may be fostered.

The more common danger with this drug is poisoning. Each Lomotil tablet contains 2.5 mg of diphenoxylate and 0.025 mg of atropine sulfate; each 5 ml of the liquid has the same ingredients as one tablet. Children are much more sensitive to both than adults and dehydration increases this propensity. The clinical picture is biphasic, i.e., signs of atropinism early and narcotic effects later. *The first stage* which lasts two or three hours is usually classical for antropinism—flushing, mydriatic pupils, tachycardia, tachypnea, hyperpyrexia, hypotonia and lethargy. Disorientation and hallucinations are common as in any poisoning due to an anticholinergic-acting drug. This first phase is often not recognized because it

can suggest an intercurrent illness. If you see the patient in this phase, physostigmine is not often required except in extreme cases. *The second* or narcotic phase usually begins two to three hours after ingestion but can be delayed for as long as 36 hours and is characterized by the classic narcotic triad — *miosis, respiratory depression* and *coma*. Pulmonary edema is not an uncommon finding and death is relatively common.

Treatment is relatively straightforward because an antidote, naloxone, is available. Gastric lavage rather than ipecac-induced emesis is indicated, while activated charcoal can also be quite helpful. Ipecac is probably dangerous, even in the conscious child, because of the rapidity with which apnea and drowsiness can occur. Naloxone (Narcan) is the drug of choice in the second phase at a dose of 0.01 mg/kg IV or IM. This dose can be repeated every two to three minutes according to patient response. If the first dose doesn't rouse the patient (usually within three to five minutes), the second dose should be given at 10 times the amount, e.g., 0.1 mg/kg. Remember that the half life of naloxone is 60-90 minutes and that the half life of diphenoxylate is quite long; therefore repeat doses of naloxone are usually needed to prevent respiratory depression (as often as every two to three hours).

Because of its dubious benefit and the risk of toxicity, the use of Lomotil for pediatric patients is difficult to justify.

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Bowman Gray School of Medicine
Winston-Salem, N.C., and
Chairman, Committee on Accidents
and Poison Prevention
N.C. Chapter of the American
Academy of Pediatrics

Editorials

MEETING OF THE EXECUTIVE COUNCIL AT MID PINES

September 26-27, 1981

The late 1960s and '70s were marked by challenges to time-honored notions about the family. Pioneer utopian radicals, reliving the 19th and earlier centuries, sought solace and security in agrarian communities and crossed off the traditional family as an outdated institution. So much was said about nuclear and extended families that noise almost drowned out thought.

If the size and nature of families are behaviorally determined by shared vocabulary, by common griefs and beliefs and by mutual concerns, the North Carolina Medical Society must be considered an extended family. This statement was well expressed by Mr. John Anderson, our respected and revered legal counsel, who stated at the annual fall meeting of the Executive Council at Mid Pines, September 26-27, 1981, that he felt like a member of our family. Well he should, because he has contributed greatly to minimizing friction in our relations with the legislative, the executive and the judicial sectors of state government and has long been considered one of our family, solely distinguished from us by having a juridical rather than a medical degree.

Each Executive Council meeting then can be viewed as a family reunion complete with contending brothers, diligent cousins, lazy uncles and devoted grandparents who manage to gossip, dispute and even be constructive. But as first vice-president, John W. Foust, pointed out, too many physicians in North Carolina have not recognized their bonds of kinship with the active members of our society. So it was decided to seek out our stray brethren through a campaign designed to impress on them the benefits of kinship — to help resolve differences and seek common ground for action appropriate to all sectors of medicine.

This talk about families is particularly germane as the gavel at this session was wielded by Dr. Josephine E. Newell, our first lady president. She would certainly resent being called a den mother and there was uncertainty about addressing her as lady president, chairlady or madam president. Physician presidents are not called doctor presidents so madam president was settled upon. Madam president handled a long and difficult sitting with grace, dispatch and proper respect for parliamentary procedure.

If the Council needed another reminder that the medical profession is always subject to challenge from other factions, it has the opportunity on entering the meeting chamber to examine an exhibit devoted to an alternative vigorously espoused by one of these factions to allopathic medicine. The exhibit concerned with these theories and practices of that alternative deserves wider distribution.

Meeting such challenges always takes time, talent and dollars as we are well aware. Still, Dr. Ernest B. Spangler, chairman of the Committee on Finance, was obliged to again call this to our attention. Because of our current surplus, we will be able to survive a budgetary deficit in 1982 of \$162,000. The total projected budget, however, exceeds \$1.2 million, leaving a too modest reserve for 1983. As we seek more members, we must face increased dues in 1983 simply to keep up and to allow a little freedom for innovation.

A good example of how good deeds are affected by dollars is the society's jail project, designed to improve the medical care of those resident in such county institutions. Originally funded by the AMA and by a federal grant, the project must now be supported from other sources. The Kate B. Reynolds Health Care Trust had offered \$54,000 of the \$90,000 needed for the next three years if the society would provide the remainder. This was not forthcoming because some distinction was required in determining who provides the seed and who keeps the garden fertilized. The Trust and the Society can hardly be expected to provide perennial help for a program which really needs local sustenance for survival. So the society, somewhat reluctantly, withdrew from the field, leaving it to the respective county commissioners.

The society did see fit to endorse the candidacy of ex-president and AMA delegate John Glasson for a place on the Board of Trustees of the American Medical Association. Dr. Glasson's probity and capacity for taking pains with medical matters needs to be displayed on a larger stage. The council authorized expenditures in his behalf which he welcomed, pointing out both the value and need of full disclosure of such support. It also recognized Dr. James E. Davis, newly elected Speaker of the House of Delegates of the AMA who expressed his heartfelt appreciation for the support of the members of the society in his successful campaign. Dr. David Welton, the Dean of our AMA delegation, was recognized with a standing

ovation for his long and loyal service. He will not stand for re-election and will indeed be missed.

Many others were heard from. Mrs. Hampton Hubbard spoke tellingly for the auxiliary; her message will appear elsewhere in the Journal. Dr. Jesse Caldwell, Jr., spoke for the Mediation Committee describing the makeup of that group and how it handles complaints it receives about member physicians, while Dr. Bruce Blackmon, Secretary of the North Carolina Board of Medical Examiners, noted that the impaired physician is a concern of all but particularly the board and of the Mediation Committee. In response to the need to do something about the impaired physician, the University of North Carolina School of Medicine has proposed an individualized re-training program under its auspices for such individuals. The program is in the stage of advancing and development.

A number of general matters were heard before the council received reports from the six commissioners. Our current commissions and current commissioners are: Administration, Dr. Thomas B. Dameron; Advisory and Study Commission, Dr. S. Maxton Mauney, Jr.; Annual Convention Commission, Dr. Gloria F. Graham; Professional Service Commission, Dr. Charles A. Hoffman, Jr.; Public Affairs Commission, Dr. John L. McCain; Public Service Commission, Dr. Rose Pully. So multifarious are their duties and so extensive their reports, that they cannot be considered in detail here.

For our readers, an explanation of the makeup of the council may be in order. The voting members include the president, president-elect, first vice-president, second vice-president, secretary, speaker, vice-speaker, past-president and the councils of the ten districts in the state.

Ex officio members are the commissioners who may present motions from their committees; the chairmen of the Committees on Legislation, Constitution and Bylaws and Communication; our AMA delegates; the secretary of the Board of Medical Examiners; the editor of the Journal and the director of Health Services, who may discuss and listen only.

J.H.F.

GMENAC AND GETTING INTO MEDICAL SCHOOL

In the last decade about 30 new medical schools, most supported by state governments, have opened increasing the number of physicians in this country strikingly. This expansion was provoked in large measure by the assumption that medical care was and had been inadequate, that it should be improved, and that we could afford it. Health in the process became a right and a commodity, to be protected presumably by law and to be purchased for the consumer as if it were packagable and available on order.

Now the Graduate Medical Education National Advisory Committee (GMENAC), appointed to examine the adequacy of our national response to our currently perceived medical needs, has expressed concern that

we are about to have a surfeit of physicians, that there won't be enough receptor sites in our communities for all our circulating physicians. So it is urged that medical colleges by 1984 decrease their annual entering classes by 10% of the 1978-79 and 17% of the 1980-81 classes. This would avoid to some extent physician surplus of 70,000 predicted for 1990.

Their conclusions are not unanimous and have been cogently criticized, particularly by specialty groups. The committee considered needs of the public, distribution of practitioners geographically, numerically and by specialty, the demands of the marketplace and what could be expected of medical technology in the near future. It assumed that adequate financing for graduate medical education would be available and gave considerable attention to our national economic predicament. After all, about 10% of our gross national product is accounted for by the health sector. Data bases were acquired and analyzed, projections made and consensus sought, familiar committee procedures. One method employed by GMENAC is the Delphian technique by which educated guesses by a number of experts and authorities are synthesized and pronouncement made. Delphian is a better adjective than oracular because it implies historical validity, acute perception, sources of secret knowledge and a profound, if intuitive, understanding of the nature of things. But the oracle at Delphi in ancient Greece wasn't that accurate, spoke quite cryptically and was not accountable to voting populations.

GMENAC's assumption of the continuing availability of enough money for medical education appears not to have been warranted. Congress which blessed and financed medical college expansion is now seriously considering bill S-1284 which repeals capitation grants to medical schools, restricts student aid programs, discourages new programs and does not look kindly on maintaining a number of government supported projects in medical education. Because of increasing tuition and living costs, many students in school today must borrow money or commit themselves to pay back service in the armed forces or public health service. In some schools 70%-80% of students require financial help, from limited to almost total support. The National Health Service scholarships will not be available for two years in all probability, the guaranteed student loan fund is in trouble and high interest rates discourage us all from borrowing. Already the average debt of medical students at graduation approaches a mean of \$20,000. A few calculations tell the difference between a 9% and an 18% long term loan.

Because we physicians more than members of most professions are intensely concerned and assume more responsibility for the training of our successors, it is appropriate to examine who medical students of today are, how they are selected and how their education is paid for. North Carolina has four approved four-year medical schools, two private and two state. Interestingly, as four-year institutions, the state schools are younger, one opening during the past decade, and the

other expanding from a two-year to a full curriculum about 30 years ago.

Last year there were 422 places in our medical schools for first year students (Table I). Two-hundred eighty are allocated for residents of this state, the remaining 142 for non-residents. The road to admission is similar for all applicants who must have respectable grades in undergraduate school, must take and do satisfactorily on the Medical College Admission Tests and be interviewed by faculty members and often medical students at the respective schools. As Table II indicates, there are many applicants for a few places, but because would-be physicians apply to many medical schools, about one aspirant in two in this country will gain entrance somewhere. Duke and Bowman Gray have more applicants than the state schools because they have more places for out-of-state residents and many states export medical students. We, for example, do better in this state than California in providing places for our residents. Leading private medical schools outside the Golden State annually accept some Californians.

As shown in Table II, 29.4% of medical students entering last year (1980) were female,* virtually identical to the national figure of 28.6%.¹ In the 1970s the percentage of women applying to medical school in-

*Allcott JC: Personal communication.

TABLE I
Geographical Allocation of Places
in First Year Classes, 1980

| | # | NC | Out of State |
|-------------|-----|-----|--------------|
| Bowman Gray | 108 | 65 | 43 |
| Duke | 114 | 30 | 84 |
| ECU | 40 | 40 | |
| UNC-CH | 160 | 145 | 15 |
| Totals | 422 | 280 | 142 |

creased quite rapidly to account for one-third of the pool. It now may be leveling off although higher scores on SATs by women are affecting undergraduate enrollment and the curve may not have peaked.

Enrollment from minority groups, as defined by the Department of Health and Human Services, has also increased but now seems to be plateauing. These minorities are defined as ethnic groups in our population who are underrepresented in medical schools, their percentages being lower than in the population at large. Blacks, American Indians, Puerto Rican mainlanders and Mexican Americans are so categorized. A great deal of effort has been exerted in North Carolina, particularly at Chapel Hill, to increase the number of qualified blacks and Indians applying to enter medical school.

In numerical terms these efforts have been remarkably successful, but it is too soon to know whether improved medical care for our minorities will result. If the ratio of black students to the number of places in the freshman class of each medical school in the country, data easily available,¹ is determined, the University of North Carolina Medical School ranks second in the nation, East Carolina University is fifth, Duke sixteenth and Bowman Gray twentieth. The predominantly black schools and the Puerto Rican medical colleges have been excluded from these calculations, leaving a total of 120 schools whose ratios were calculated. If data are combined, North Carolina is second only to New Jersey in state ranking.

Because 75% of medical students go to school in their home states (percentages are higher in the south), a look at educational attainment by North Carolinians is in order. Over 700 state residents applied for medical school admission in 1981, a new high, but their scores on the Medical College Admission Tests were somewhat discouraging — about average in the nation. Residents of Washington and California had the highest scores as has been customary in recent

TABLE II
Applicants for Places in First-Year Medical School Classes 1980 and 1978 through 1980*

| Years Entering | Applicants | | NC Resident Applicants | | Accepted | | Enrolled | |
|----------------|------------|-------------|------------------------|------------|----------|------------|----------|------------|
| | Total | Female (%) | Total | Female (%) | Total | Female (%) | Total | Female (%) |
| Bowman Gray | | | | | | | | |
| 1980 | 4418 | 1168 (26.4) | 504 | ** | 216 | 57 (26.4) | 108 | 32 (29.6) |
| 1978-80 | 13250 | 3346 (25) | 1378 | ** | 672 | 169 (25.1) | 324 | 76 (23.4) |
| Duke | | | | | | | | |
| 1980 | 3952 | 1126 (28.5) | 218 | 61 (28) | 218 | 79 (36.2) | 114 | 42 (36.8) |
| 1978-80 | 11779 | 3213 (27.3) | 607 | 191 (31.5) | 677 | 251 (37.1) | 342 | 110 (32.2) |
| ECU | | | | | | | | |
| 1980 | 1086 | 279 (25.7) | 572 | 140 (24.5) | 104 | 25 (24) | 40 | 8 (20) |
| 1978-80 | 2032 | 520 (25.6) | 1302 | 315 (24.2) | 281 | 75 (26.7) | 116 | 24 (20.7) |
| UNC-CH | | | | | | | | |
| 1980 | 1836 | 551 (30) | 650 | 173 (26.6) | 224 | 65 (29) | 160 | 42 (26.3) |
| 1978-80 | 5644 | 1623 (23.8) | 1772 | 480 (27.1) | 602 | 191 (31.7) | 465 | 147 (31.6) |

*Allcott JC: Personal communication.

**Data not available.

years. But students who have average scores do reasonably well. Those who do less well have real difficulty, both in getting in and in getting through medical school. Southern residents have traditionally trailed the rest of the nation in academic performances as is demonstrated in Table III.² Our improvement between 1970 and 1976, a full year, is heartening, but we have so far to go. There is no evidence that our students are lacking in native intelligence; by the end of medical school, little difference in performance between local boys and outlanders can be detected.

It is difficult to maintain one's perspective in medical education today. High standards must be maintained — in selection of medical students, in licensing medical graduates and in practice and research. The sparsely settled parts of our country, the less affluent sections of cities, compete with difficulty in attracting doctors, making distribution a major problem, and focusing attention on how to maintain quality in quantity.

Measures to provide for the general welfare are needed if both medical and health care are to be comparable in cost, adequacy and availability for our citizenry. Whether GMENAC is looking into a glass darkly, whether the Reagan administration is misreading clues about medical education remain to be seen.

TABLE III
Educational Attainment, 1970 and 1976
North Carolina and the United States²

| | Years | North Carolina | | United States | |
|-------------|-------|----------------|-------------|---------------|-------------|
| | | 1970 | 1976 | 1970 | 1976 |
| | | % Residents | % Residents | % Residents | % Residents |
| High School | <1 | 31.6 | 25.2 | 24.4 | 17.5 |
| | 1-3 | 24.8 | 19.5 | 19.7 | 15.9 |
| | 4 | 25.5 | 29.3 | 33.1 | 36.0 |
| College | 1-3 | 10.7 | 14.1 | 12.9 | 9.9 |
| | >4 | 7.6 | 11.9 | 16.7 | 13.9 |
| Median | Years | 11.2 | 12.2 | 12.2 | 12.5 |

Medicine has always been and continues to be an attractive field as the large number of applicants indicates. While there is a tyranny of numbers — dollars, grade point averages, MCAT scores, the interest rate — selection is not arbitrary, patients' needs are being met remarkably well and there is ample reason to believe that medical schools and medical students will be able to cope with the stresses of the '80s.

J.H.F.

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Bulletin Board

NEW MEMBERS of the State Society

The following members have joined the North Carolina Medical Society during the month of November 1981:

32 DURHAM-ORANGE

Miller, Frank Black (P) 500 Eastowne Drive, Suite 103, Chapel Hill, N.C. 27514

Pruitt, Ronald E. (Student) 1105 Willow Drive, Chapel Hill, N.C. 27514

Somers, William Alan (ORS) 1828 Hillandale Road, Durham, N.C. 27705

98 WILSON

Faw, Richard Gordon (PN) P.O. Drawer 3029, Wilson, N.C. 27893

WHAT? WHEN? WHERE? In Continuing Education

Please note: 1. The Continuing Medical Education Programs at Bowman Gray, Duke, East Carolina and UNC Schools of Medicine, Dorothea Dix, and Burroughs Wellcome Company are accredited by the American Medical Association. Therefore CME programs sponsored or cosponsored by these schools automatically qualify for AMA Category I credit toward the AMA's Physician Recognition Award, and for North Carolina Medical Society Category A credit. Where AAFP credit has been requested or obtained, this also is indicated.

2. The "place" and "sponsor" are indicated for a program only when these differ from the place and source to write "for information".

December 3-4

"Recent Advances in the Diagnosis and Treatment of Cancer"

Place: Duke Hospital

Fee: \$250

Credit: 15 hours

For Information: H. F. Seigler, M.D., P.O. Box 3947, Duke University Medical Center, Durham, N.C. 27710

December 4-6

"Drug Management of Childhood Behavior Disorders"

Place: Hotel Europa, Chapel Hill

Fee: \$150

Credit: 15.5 hours, AAFP applied for

For Information: William Wood, M.D., Office of Continuing Education, UNC School of Medicine, Chapel Hill, N.C. 27514, 919-962-2118

December 9

"Infections in Obstetrics and Gynecology"

Place: Pitt County Memorial Hospital Auditorium, Greenville, N.C.

Fee: \$50

Credit: 7 hours, AAFP applied for

For Information: F. M. Simmons Patterson, M.D., Assistant Dean for Continuing Medical Education, East Carolina University School of Medicine, Greenville, N.C. 27834

January 13

"Laboratory Diagnosis of Endocrine Diseases"

Place: Pitt County Memorial Auditorium, Greenville, N.C.

Fee: \$50

Credit: 7 hours, AAFP applied for

For Information: F. M. Simmons Patterson, M.D., Assistant Dean for Continuing Medical Education, East Carolina University School of Medicine, Greenville, N.C. 27834

January 20

"Physician Health and Effectiveness — The Impaired Physician"

Place: Central Carolina Hospital

Fee: \$12

Credit: 2 hours

For Information: Robert S. Cline, M.D., 1135 Carthage Street, Sanford, N.C. 27330, 919-774-4100, ext. 394

January 22-23

"Clinical Urology"

Place: Bowman Gray School of Medicine

Fee: \$100

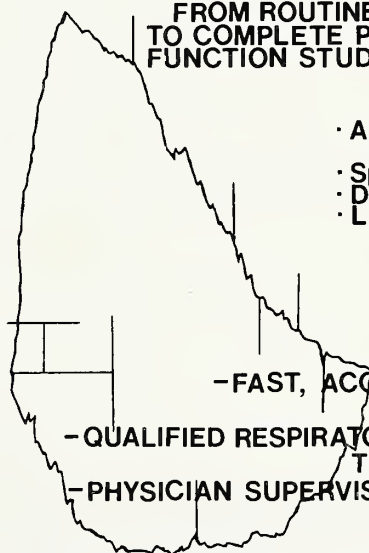
Credit: 3 hours

For Information: Emery C. Miller, M.D., Assoc. Dean for Continuing Education, Bowman Gray School of Medicine, 300 S. Hawthorne Road, Winston-Salem, N.C. 27103, 919-748-4450

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January 23

"Third Annual Pulmonary Disease Update: (A Breath of Spring)"
Place: Pitt County Memorial Hospital Auditorium, Greenville, N.C.

Fee: \$50

Credit: 6 hours, AAFP applied for

For Information: F. M. Simmons Patterson, M.D., Assistant Dean for Continuing Medical Education, East Carolina University School of Medicine, Greenville, N.C. 27834

February 10

"Clinical Psychiatry Update 1982"

Place: Pitt Memorial Hospital, Greenville, N.C.

Fee: \$25

Credit: 3 hours, AAFP applied for

For Information: F. M. Simmons Patterson, M.D., Assistant Dean for Continuing Medical Education, East Carolina University School of Medicine, Greenville, N.C. 27834

February 25

"Technique of Pacemaker Implantation and New Types of Pacemakers"

Place: Bowman Gray School of Medicine

Credit: 6 hours

For Information: Emery C. Miller, M.D., Associate Dean for Continuing Education, Bowman Gray School of Medicine, 300 S. Hawthorne Road, Winston-Salem, N.C. 27103, 919-748-4450

IN CONTIGUOUS STATES

December 6-9

"Coronary, Hypertensive, Valvular and Myocardial Heart Diseases: The Multi-Disciplinary Approach"

Place: Williamsburg, Virginia

For Information: Registration Secretary, Extramural Programs Department, American College of Cardiology, 9111 Old Georgetown Road, Bethesda, Maryland 20014

January 22-23

"S.C. Chapter of A.C.S. — Annual Surgical Symposium"

Place: Charleston, S.C.

For Information: Robert S. Cathcart, III, M.D., 158 Rutledge Avenue, Charleston, S.C. 29403, 803-723-6426

The items listed in the above column are for the six months immediately following the month of publication. Requests for listing should be received by "WHAT? WHEN? WHERE?", P.O. Box 27167, Raleigh, 27611, by the 10th of the month prior to the month in which they are to appear. A "Request for listing" form is available upon request.

AUXILIARY TO THE NORTH CAROLINA MEDICAL SOCIETY

REPORT OF THE PRESIDENT TO THE EXECUTIVE COUNCIL OF THE NORTH CAROLINA MEDICAL SOCIETY

In the 1980-81 year the president of the North Carolina Medical Society Auxiliary, Mrs. Hal J. Rollins, Jr. (Ann), set out with a few very precise objectives over and above the customary ones of the organization. Taking as her theme — "Investments for the Eighties" — her principal goal was to reassess and reorganize the internal financial workings of the Auxiliary. A woman of keen perception, President Rollins had been aware for some time that the auxiliary was functioning on an unrealistic budget, which amounted to deficit spending, and with a Reagan-like approach

CYCLAPEN®-W (cyclacillin)

Indications

Cyclacillin has less *in vitro* activity than other drugs in the ampicillin class and its use should be confined to these indications: Treatment of the following infections:

RESPIRATORY TRACT

Tonsillitis and pharyngitis caused by Group A beta-hemolytic streptococci

Bronchitis and pneumonia caused by *S. pneumoniae* (formerly *D. pneumoniae*)

Otitis media caused by *S. pneumoniae* (formerly *D. pneumoniae*) and *H. influenzae*

Acute exacerbation of chronic bronchitis caused by *H. influenzae**

*Though clinical improvement has been shown, bacteriologic cures cannot be expected in all patients with chronic respiratory disease due to *H. influenzae*.

SKIN AND SKIN STRUCTURES (integumentary) infections caused by Group A beta-hemolytic streptococci and staphylococci, non-penicillinase producers.

URINARY TRACT INFECTIONS caused by *E. coli* and *P. mirabilis*. (This drug should not be used in any *E. coli* and *P. mirabilis* infections other than urinary tract.)

NOTE: Perform cultures and susceptibility tests initially and during treatment to monitor effectiveness of therapy and susceptibility of bacteria. Therapy may be instituted prior to results of sensitivity testing.

Contraindications Contraindicated in individuals with history of an allergic reaction to penicillins.

Warnings Cyclacillin should only be prescribed for the indications listed herein.

Cyclacillin has less *in vitro* activity than other drugs of the ampicillin class. However, clinical trials demonstrated it is efficacious for recommended indications.

Serious and occasional fatal hypersensitivity (anaphylactoid) reactions have been reported in patients on penicillin. Although anaphylaxis is more frequent following parenteral use, it has occurred in patients on oral penicillins. These reactions are more apt to occur in individuals with history of sensitivity to multiple allergens. There are reports of patients with history of penicillin hypersensitivity reactions who experienced severe hypersensitivity reactions when treated with a cephalosporin. Before penicillin therapy, carefully inquire about previous hypersensitivity reactions to penicillins, cephalosporins and other allergens. If allergic reaction occurs, discontinue drug and initiate appropriate therapy. Serious anaphylactoid reactions require immediate emergency treatment with epinephrine. Oxygen, I.V. steroids, airway management, including intubation, should also be administered as indicated.

Precautions Prolonged use of antibiotics may promote overgrowth of nonsusceptible organisms. If superinfection occurs, take appropriate measures.

PREGNANCY Pregnancy Category B. Reproduction studies performed in mice and rats at doses up to 10 times the human dose revealed no evidence of impaired fertility or harm to the fetus due to cyclacillin. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, use this drug during pregnancy only if clearly needed.

NURSING MOTHERS: It is not known whether this drug is excreted in human milk. Because many drugs are, exercise caution when cyclacillin is given to a nursing woman.

Adverse Reactions Oral cyclacillin is generally well tolerated. As with other penicillins, untoward sensitivity reactions are likely, particularly in those who previously demonstrated penicillin hypersensitivity or with history of allergy, asthma, hay fever, or urticaria. Adverse reactions reported with cyclacillin: diarrhea (in approximately 1 out of 20 patients treated), nausea and vomiting (in approximately 1 in 50), and skin rash (in approximately 1 in 60). Isolated instances of headache, dizziness, abdominal pain, vaginitis, and urticaria have been reported. (See WARNINGS) Other less frequent adverse reactions which may occur and are reported with other penicillins are onemia, thrombocytopenia, thrombocytopenic purpura, leukopenia, neutropenia and eosinophilia. These reactions are usually reversible on discontinuation of therapy.

As with other semisynthetic penicillins, SGOT elevations have been reported.

As with antibiotic therapy generally, continue treatment at least 48 to 72 hours after patient becomes asymptomatic or until bacterial eradication is evidenced. In Group A beta-hemolytic streptococcal infections, at least 10 days' treatment is recommended to guard against risk of rheumatic fever or glomerulonephritis. In chronic urinary tract infection, frequent bacteriologic and clinical appraisal is necessary during therapy and possibly for several months after. Persistent infection may require treatment for several weeks.

Cyclacillin is not indicated in children under 2 months of age.

Patients with Renal Failure Cyclacillin may be safely administered to patients with reduced renal function. Due to prolonged serum half-life, patients with various degrees of renal impairment may require change in dosage level (see DOSAGE AND ADMINISTRATION in package insert).

Dosage (Give in equally spaced doses)

| INFECTION | ADULTS | CHILDREN* |
|-----------------------------|--------------------------|--|
| Respiratory Tract | | |
| Tonsillitis & Pharyngitis | 250 mg q.i.d. | body weight < 20 kg (44 lbs) 125 mg q.i.d. body weight > 20 kg (44 lbs) 250 mg q.i.d. |
| Branchitis and Pneumonia | | |
| Mild or Moderate Infections | 250 mg q.i.d. | 50 mg/kg/day q.i.d. |
| Chronic Infections | 500 mg q.i.d. | 100 mg/kg/day q.i.d. |
| Otitis Media | 250 mg to 500 mg q.i.d.† | 50 to 100 mg/kg/day† |
| Skin & Skin Structures | 250 mg to 500 mg q.i.d.† | 50 to 100 mg/kg/day† |
| Urinary Tract | 500 mg q.i.d. | 100 mg/kg/day |

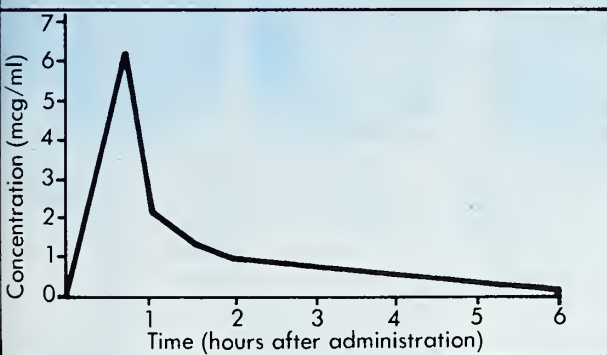
*Dosage should not result in a dose higher than that for adults.

†depending on severity

Half the dose
is absorbed in 9 minutes!
compared to 32 minutes for ampicillin.*



Mean blood levels in mcg/ml after 250 mg cyclacillin single oral dose



- Rapid, virtually complete absorption from GI tract
- Exceptionally high peak blood levels – 3 times greater than ampicillin (Clinical efficacy may not always correlate with blood levels.)
- Rapidly excreted unchanged in urine – 1½ times faster than ampicillin

Based on $T^{1/2}$ values for single oral doses of 500 mg cyclacillin tablet and 500 mg ampicillin capsule. Data on file, Wyeth Laboratories.

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Fewer episodes of diarrhea and rash than with ampicillin in studies to date.

Efficacy proven in the treatment of bronchitis, pneumonia, and upper respiratory infections.[†]

In 117 patients, 73 with bronchitis/pneumonia caused by *S. pneumoniae* and 44 with streptococcal sore throat caused by Group A beta-hemolytic streptococcus, CYCLAPEN[®]-W achieved a clinical response rate of 100%! Bacterial eradication was 95% and 86% respectively.

[†]Due to susceptible organisms.

See important information on facing page.

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125 and 250 mg per 5 ml Suspension

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**NEW
NAME**

she proceeded to act in order to get the auxiliary on an even keel. The president:

- requested an increase in funds from the medical society which would enable the auxiliary to do more effectively what was necessary to augment medicine's role in community.

- employed an attorney who specialized in endowments to study the auxiliary's endowment funds, which were defined in the organization's bylaws, in order to see what changes could be made to make them once again serve a need. The closing of the various sanatoriums which these funds set up had rendered some passages obsolete.

- scrutinized the auxiliary Student Loan Fund from which the medical auxiliary derives its free status. This fund was designated for maximum \$1000 loans, at low interest rates, to be used by worthy medical students, as well as those in allied health fields, to take care of particular needs other than tuition. Records had become muddled, and the rate of delinquency in repayment was relatively high. The interest charged was ridiculously low, and the length of time for repayment was unnecessarily long, thereby contributing to the delinquency.

- sought to get all the monies and the accounts of the auxiliary permanently located in Raleigh at one financial institution in various appropriate accounts to assure continuity and the maximum amount of service.

The medical society was responsive to President Rollins' request for additional assistance and increased the amount from \$5400 to \$8000 in cash and set up a \$6000 drawing account at the medical society headquarters to cover the cost of services and supplies provided at headquarters. At the same time the medical society urged very strongly that the medical auxiliary *seriously* seek to employ an executive secretary. They also recommended that the auxiliary establish a dues increase as soon as possible.

The attorney who studied the endowment funds recommended that *four* of these be combined to form one fund which could be invested over an extended length of time for a maximum yield with the interest being plowed back in to increase the capital. Eventually, with enough capital, the interest annually would afford the auxiliary sufficient funds to establish worthwhile scholarships for medical students within the state of North Carolina.

The fifth auxiliary fund, the Mental Health Endowment, was not included in this consolidation since the interest from that continues to be awarded to the Department of Psychiatry at the School of Medicine, University of North Carolina at Chapel Hill, for their worthwhile purposes.

The same attorney agreed to help the auxiliary collect the delinquent student loans and rewrite the requirements of these loans. It was decided to raise the annual interest rate from 5% to 6%, due at the end of the first year (rather than waiting until the borrower graduated) and the end of each year thereafter. The loans are written for three years. At the end of the

third year, a charge of 1% monthly (12% annually) will be added on to any unpaid balance. Needless to say, even with more stringent terms, the loans continue to be the bargain of the century.

Through the assistance of the attorney, arrangements were made for repayment of all the delinquent loans (with one exception), which will enable the auxiliary to lend a helping hand to many more students than it would have been able to do otherwise.

At the end of the 1980-81 year the fourth objective of President Rollins was accomplished in her goal to put the auxiliary's financial house in better order. All the accounts were established in Raleigh at one bank. Contact was made with an accounting firm in Raleigh, and now (regardless of where the treasurer resides) a particular member of this firm will audit the books annually. This too provides continuity.

With the increase of funding by the medical society the auxiliary felt sufficiently "cushioned" to risk employing an executive secretary. Mona Sauls (Mrs. Gene) was employed in March 1981 to work in the medical auxiliary office at the medical society headquarters. Her hours are from 8:30 to 2:30 five days a week, ten months a year. Her benefits — health coverage, disability, retirement and social security — are under the umbrella of the medical society, which means she is paid by the society *from a check sent to the society monthly by the treasurer of the medical auxiliary*. She is paid on a twelve month basis with all the deductions, etc. handled by the accounting staff of the medical society. The executive secretary helps the officers of the medical auxiliary, particularly the president, implement the work of the organization. She sees to the printing and distributing of the major publications — *Tar Heel Tandem*, *Guide Posts*, *Annual Reports*, *Master List* — the President's *Newsletter*, official correspondence of all kinds. She assists in setting up programs. She is an advisor and resource person for the entire membership and provides continuity within the organization. She is a liaison for the auxiliary to the medical society. She is the custodian of permanent records and files for the auxiliary. In a word she is *invaluable*, and it is impossible to imagine how the auxiliary was able to function so long and so well without her. Certainly the position of president was becoming a "killer" because at the present time, even with the executive secretary's services, the president still is at work fulltime throughout her year of office.

At the meeting of the House of Delegates in May an increase in state auxiliary dues from \$4.00 to \$8.00 was passed to begin with the 1981-82 year. The House also voted in a revision of the bylaws to change the status of the endowment funds. They also authorized a change in Student Loan, limiting access to North Carolina *medical students* attending North Carolina universities. The reason for this — *eliminating students in the allied health fields* — was because the numerous *county* auxiliary loan funds are available to those students. With the soaring tuition costs at the medical schools, it was felt that at the state level there is a

particular need to provide low interest funds for medical students to help them any way possible.

During the 1980-81 year the North Carolina Medical Society president, Dr. Frank Sohmer, had stressed legislation. In response to that President Rollins organized for the medical auxiliary a "Day at the Legislature" in February to help acquaint the membership with how the legislature functions. Seventy-five members of the auxiliary participated. It was an extremely successful venture, and a number of the legislators have expressed the hope that the medical auxiliary will continue this practice. This has been passed on to the current president-elect who will be president of the auxiliary in 1982-83. She attended the Legislation Symposium in Myrtle Beach in October to begin preparation for the next "Day at the Legislature" two years hence.

The theme for the 1981-1982 year is "Life is a Celebration." I stated that my major thrust would be directed towards programs for the aging, handicapped and mental health. All these followed state and national emphasis — auxiliary and otherwise. At the same time, however, I did encourage the component auxiliaries to continue their successful and/or uncompleted projects without regard to whether they did or did not comply with any direction I might set. I have not abandoned my goals, but at the same time I am finding that current events often influence my course. The need for volunteers in so many areas, where they were not necessary before, means we must be flexible and available. It also calls for a degree of caution. We are not equipped to salvage every sinking ship. I am urging the county auxiliaries to acquaint themselves with the needs of their communities and to go where they can make a difference. I also will urge that they increase their loan funds of all kinds, including their donations to AMA-ERF, because students are hard put to find the money for education these days. This is one of the best areas that auxiliaries can choose to make a difference in people's lives.

We have completed our annual Fall workshop at Southern Pines, September 21-22. We had a volunteer training seminar to help us organize ourselves to be more effective, and we also introduced the membership to the Physician's Health and Effectiveness Program (PHEP). The PHEP has been functioning for some time in the state, but Dr. Clark and the members of the committee felt it was time that the auxiliary was made aware of it. The Fall workshop was well attended, and I believe what the membership carried away from it will strengthen the effectiveness of the organization.

The 1981-1982 president of the medical society, Dr. Josephine Newell, has expressed concern with the lack of growth in membership in the society. This past year the auxiliary actually experienced a decline in membership — more at the national level than the state — but a decline nevertheless. We join with Dr. Newell in wanting to turn the membership around in the society as well as the auxiliary. I feel that from the auxiliary's standpoint we must offer programs and

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projects which interest and meet the needs of the potential membership. It has been proven in the past that a keen interest in auxiliary on the part of the spouse will often get the physician interested in the society. This is one of the best ways I see for the leadership within the auxiliary to help both organizations. Now that we are such a smooth-running, streamlined organization thanks to the efforts of President Rollins, the addition of Mona Sauls and the generosity of the medical society, we certainly are equipped to do our share and more.

MRS. HAMPTON HUBBARD, President
Clinton, N.C.

News Notes from the

BOWMAN GRAY SCHOOL OF MEDICINE WAKE FOREST UNIVERSITY

Fourteen people have received appointments to the fulltime faculty of the Bowman Gray School of Medicine. An additional 10 people have been added to the part-time faculty.

New assistant professors are Dr. Norman E. Adair, medicine (pulmonary); Dr. Russell R. Becker, anatomy; Dr. Anthony J. DeFranzo Jr., surgery (plastic and reconstructive surgery); Dr. Raymond S. Garrison Jr., dentistry; Dr. William E. Johnston, anesthesia; and Dr. L. Andrew Koman, surgery (orthopedic surgery).

Also, Dr. Michael A. Kutcher, medicine (cardiology); Dr. Wells Martin III, radiology; Dr. Manuel J. Ricardo Jr., microbiology and immunology; Dr. John M. Thistlewood, anesthesia (obstetric anesthesia); and Dr. Michael J. Thomas, biochemistry.

Those receiving appointments as instructors were Dr. Peter F. Ballard, surgery (otolaryngology); Dr. Joseph D. Daddabbo, allied health (physician assistant program); and Dr. Elliott L. Semble, medicine (rheumatology).

Appointed to the part-time faculty were Dr. Rowland A. Hutchinson, clinical professor of dentistry (periodontics); Dr. C. Gene Goin, clinical associate professor of radiology; and Dr. Ludwik Tramer, clinical associate professor of psychiatry.

Appointed as clinical assistant professors were Dr. H. Ezell Branham Jr., psychiatry, and Dr. James H. Meyers, pathology.

New clinical instructors are Dr. Sherrill D. Braswell Jr., family medicine; Dr. Michael F. Fina, medicine (gastroenterology); Dr. Larry S. Kirby, family and community medicine; and Dr. Neil A. Ramquist, radiology.

Gilbert B. Devey was appointed lecturer in neurology.

One of the few major international conferences ever held on nuclear magnetic resonance (NMR) imaging opened Oct. 1 at the Bowman Gray School of Medicine.

The two-and-a-half-day meeting attracted more than 400 participants from across the nation and from more than half a dozen foreign countries.

The meeting was sponsored by Bowman Gray and Vanderbilt University, with a grant from the National Cancer Institute.

NMR involves the use of magnetism and radio waves to obtain images of cross sections of the body. The images convey information about biochemical activity in the cross section and involve no ionizing radiation.

Those attending the meeting speculated that it would be the last time that all of the world's NMR authorities could gather in a 400-seat auditorium because the field is growing so rapidly. Others said that the meeting was historic in that it represented the time in NMR's evolution when NMR imaging ceased being thought of solely as a research tool with great promise and began seriously being thought of as a diagnostic tool with undreamed-of potentials.

Many at the meeting came to report both research and clinical work so new that it had had no time to get into the scientific press.

Dr. Francis Smith of Aberdeen, Scotland, spoke of his clinical experience with about 300 patients and showed slides of body cross sections obtained with NMR that left little doubt as to the future of NMR as a diagnostic tool.

Others had similar slides either of patients or of research animals.

Much conversation at the meeting centered around when manufacturers will begin marketing NMR imaging machines. One company was reported to be nearing that point, with other companies close behind. And the cost was reported to range from \$300,000 to more than \$1 million.

* * *

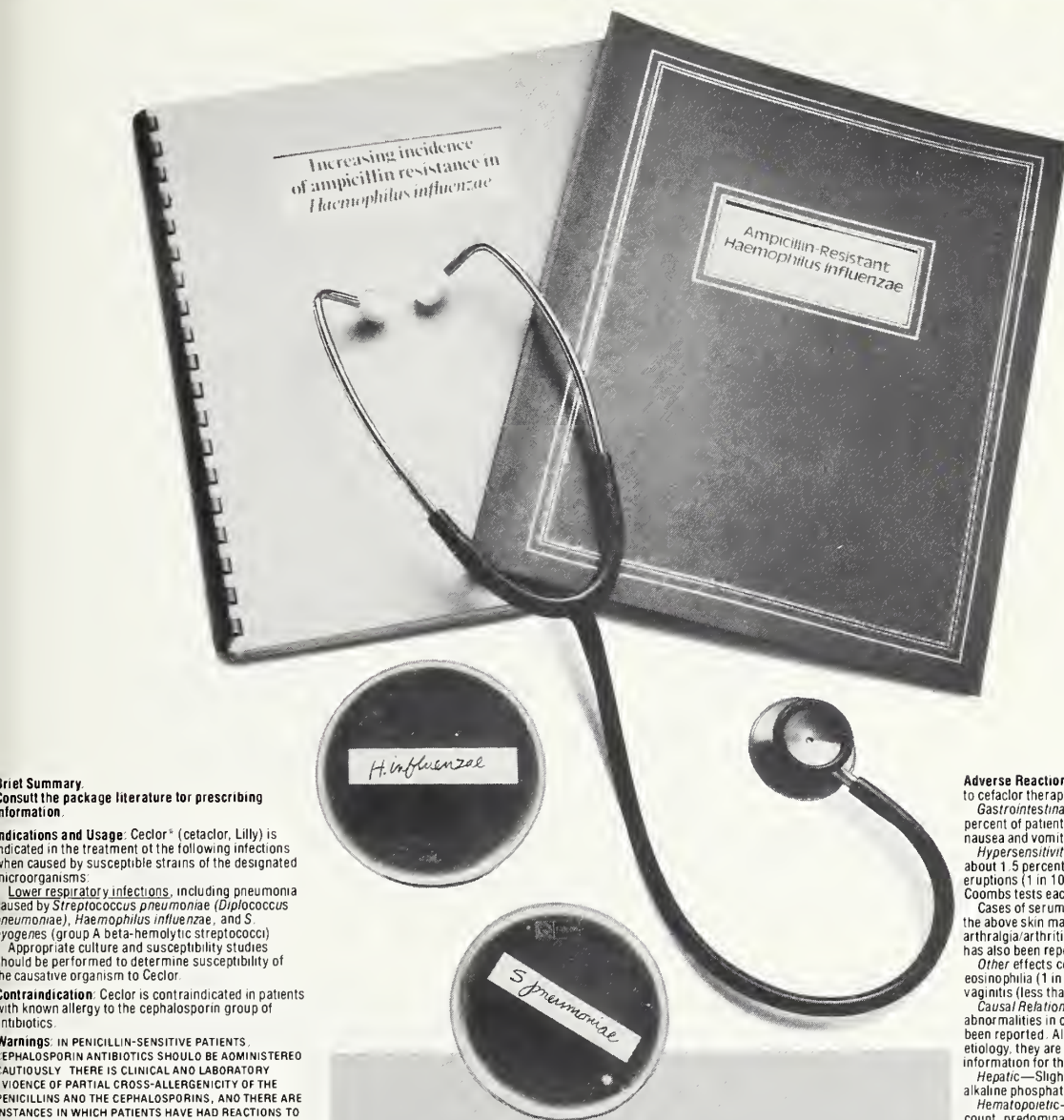
Research has begun at Bowman Gray to learn details about how the anti-cancer drug called PALA works. The work is sponsored by a two-year, \$137,000 grant from the American Cancer Society.

According to Dr. J. Courtland White, assistant professor of biochemistry who is conducting the basic research, PALA was developed in the 1970s and was considered a potentially important tool for destroying cancer cells. But the drug failed to fulfill expectations for reasons still not understood.

White is particularly interested in the process by which PALA eventually gets past the cell membrane. The drug was designed as an enzyme blocker, but its chemical properties also make it difficult to pass through the cell membrane.

He explains that the drug's ineffectiveness may be due to inadequate blockage of its target enzyme. Or the cancer cell may have methods for circumventing the effects of PALA.

An added complication... in the treatment of bacterial bronchitis*



Brief Summary. Consult the package literature for prescribing information.

Indications and Usage: Cefclor® (cefaclor, Lilly) is indicated in the treatment of the following infections when caused by susceptible strains of the designated microorganisms:

Lower respiratory infections, including pneumonia caused by *Streptococcus pneumoniae* (*Diplococcus pneumoniae*), *Haemophilus influenzae*, and *S. pyogenes* (group A beta-hemolytic streptococci).

Appropriate culture and susceptibility studies should be performed to determine susceptibility of the causative organism to Cefclor.

Contraindication: Cefclor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics.

Warnings: IN PENICILLIN-SENSITIVE PATIENTS. CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY. THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS, AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIONS TO BOTH DRUG CLASSES (INCLUDING ANAPHYLAXIS AFTER PARENTERAL USE).

Antibiotics, including Cefclor, should be administered cautiously to any patient who has demonstrated some form of allergy, particularly to drugs.

Precautions: If an allergic reaction to cefaclor occurs, the drug should be discontinued, and, if necessary, the patient should be treated with appropriate agents, e.g., pressor amines, antihistamines, or corticosteroids.

Prolonged use of cefaclor may result in the overgrowth of nonsusceptible organisms. Careful observation of the patient is essential. If superinfection occurs during therapy, appropriate measures should be taken.

Positive direct Coombs tests have been reported during treatment with the cephalosporin antibiotics. In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coombs testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs test may be due to the drug.

Cefclor should be administered with caution in the presence of markedly impaired renal function. Under such a condition, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended.

As a result of administration of Cefclor, a false-positive reaction for glucose in the urine may occur. This has been observed with Benedict's and Fehling's solutions and also with Clinitest® tablets but not with Tes-Tape® (Glucose Enzymatic Test Strip, USP, Lilly).

Usage in Pregnancy: Although no teratogenic or antifertility effects were seen in reproduction studies in mice and rats receiving up to 12 times the maximum human dose or in ferrets given three times the maximum human dose, the safety of this drug for use in human pregnancy has not been established. The benefits of the drug in pregnant women should be weighed against a possible risk to the fetus.

Usage in Infancy: Safety of this product for use in infants less than one month of age has not been established.

Some ampicillin-resistant strains of *Haemophilus influenzae*—a recognized complication of bacterial bronchitis*—are sensitive to treatment with Cefclor.¹⁻⁶

In clinical trials, patients with bacterial bronchitis due to susceptible strains of *Streptococcus pneumoniae*, *H. influenzae*, *S. pyogenes* (group A beta-hemolytic streptococci), or multiple organisms achieved a satisfactory clinical response with Cefclor.⁷

Cefclor®

cefaclor

Pulvules®, 250 and 500 mg

Adverse Reactions: Adverse effects considered related to cefaclor therapy are uncommon and are listed below:

Gastrointestinal symptoms occur in about 2.5 percent of patients and include diarrhea (1 in 70) and nausea and vomiting (1 in 90).

Hypersensitivity reactions have been reported in about 1.5 percent of patients and include morbilliform eruptions (1 in 100). Pruritus, urticaria, and positive Coombs tests each occur in less than 1 in 200 patients. Cases of serum-sickness-like reactions, including the above skin manifestations, fever, and arthralgia/arthritis, have been reported. Anaphylaxis has also been reported.

Other effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients).

Causal Relationship Uncertain—Transient abnormalities in clinical laboratory test results have been reported. Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician.

Hepatic—Slight elevations in SGOT, SGPT, or alkaline phosphatase values (1 in 40).

Hematopoietic—Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40).

Renal—Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200).

[1030808P]

*Many authorities attribute acute infectious exacerbation of chronic bronchitis to either *S. pneumoniae* or *H. influenzae*.⁸

Note: Cefclor® (cefaclor) is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients.

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever. See prescribing information.

References

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7. Data on file, Eli Lilly and Company.
8. Principles and Practice of Infectious Diseases (edited by G. L. Mandell, R. G. Douglas, Jr., and J. E. Bennett), p. 487. New York: John Wiley & Sons, 1979.

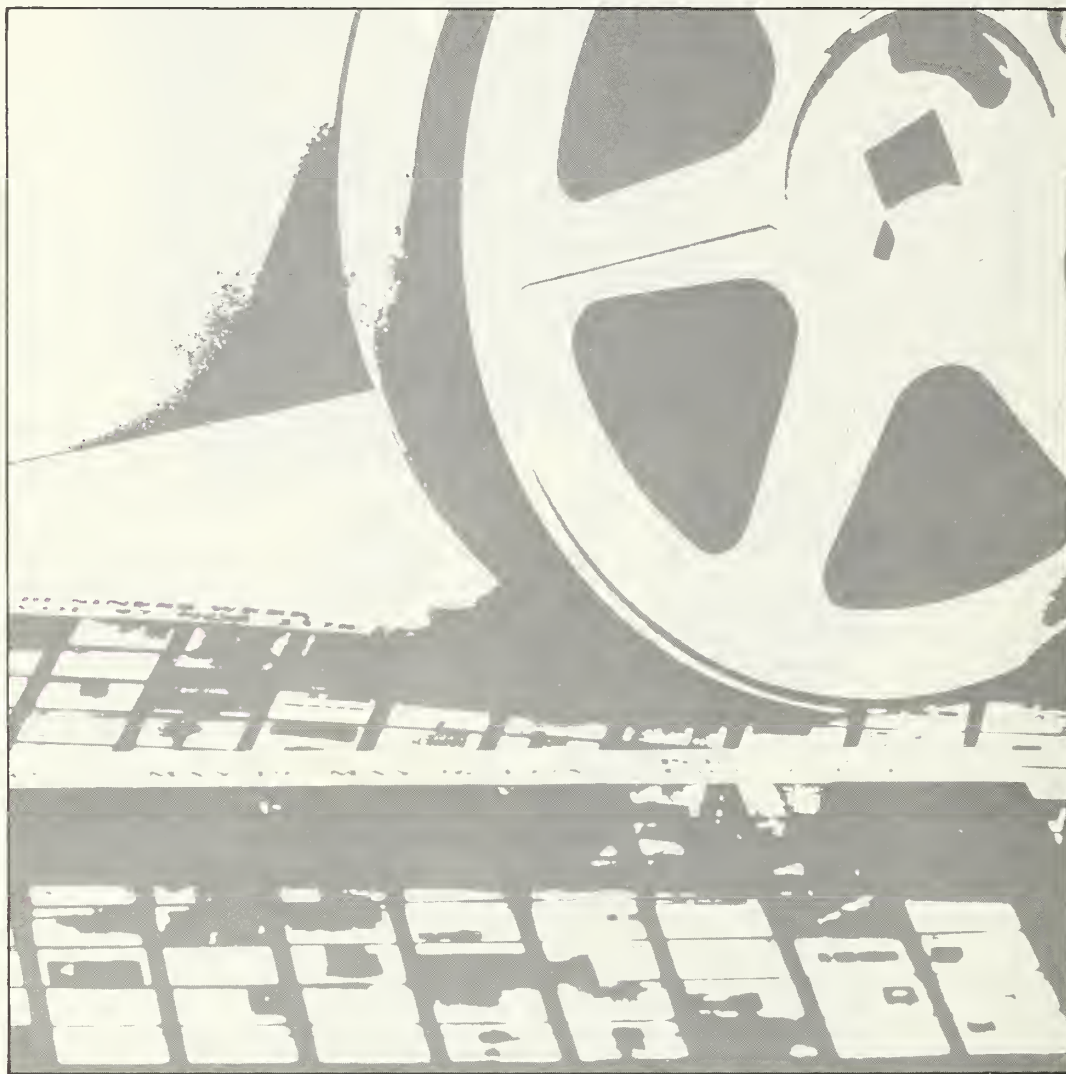


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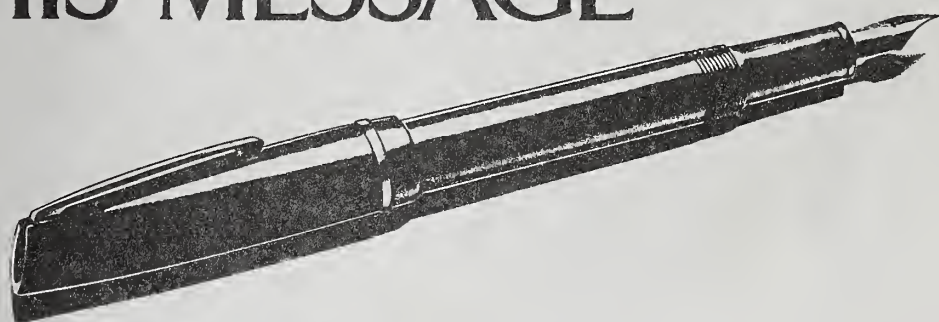
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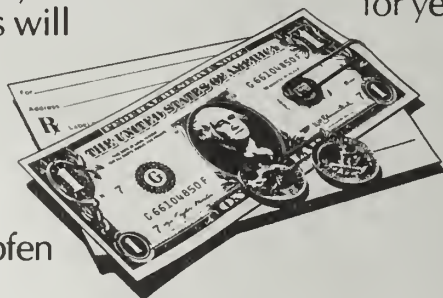
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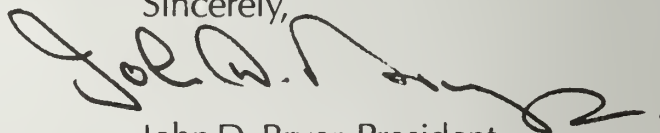
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Relief of mild to moderate pain.

CONTRAINDICATIONS: Patients hypersensitive to ibuprofen, or with the syndrome of nasal polyps, angioedema and bronchospastic reactivity to aspirin or other nonsteroidal anti-inflammatory drugs (see WARNINGS).

WARNINGS: Anaphylactoid reactions have occurred in patients hypersensitive to aspirin (see CONTRAINDICATIONS). Peptic ulceration and gastrointestinal bleeding, sometimes severe, have been reported. Peptic ulceration and gastrointestinal bleeding, sometimes severe, have been reported. Peptic ulcer perforation, or gastrointestinal bleeding can end fatally; however, an association has not been established. Rufen should be given under close supervision to patients with a history of upper gastrointestinal tract disease and only after consulting the ADVERSE REACTIONS.

In patients with active peptic ulcer and active rheumatoid arthritis, nonulcerogenic drugs, such as aspirin, should be attempted. If Rufen must be given, the patient should be under close supervision for signs of ulcer perforation or gastrointestinal bleeding.

PRECAUTIONS: Blurred and/or diminished vision, scotomata, and/or changes in color vision have been reported. If developed, discontinue Rufen and administer an ophthalmologic examination.

Fluid retention and edema have been associated with Rufen; caution should be used in patients with a history of cardiac decompensation.

Rufen can inhibit platelet aggregation and prolong bleeding time. Use with caution in patients with intrinsic coagulation defects and those taking anticoagulants.

Patients should report signs or symptoms of gastrointestinal ulceration or bleeding, blurred vision or other eye symptoms, skin rash, weight gain or edema.

To avoid exacerbation of disease or adrenal insufficiency, patients on prolonged corticosteroid therapy should be tapered slowly when adding Rufen.

DRUG INTERACTION: Coumarin-type anticoagulants. The physician should be cautious when administering Rufen to patients on anticoagulants.

Aspirin. Concomitant use may decrease Rufen blood levels.

PREGNANCY AND NURSING MOTHERS: Rufen should not be taken during pregnancy nor by nursing mothers.

ADVERSE REACTIONS

Incidence greater than 1%

Gastrointestinal: The most frequent adverse reaction is gastrointestinal (4% to 16%). Includes nausea*, epigastric pain*, heartburn*, diarrhea, abdominal distention, nausea and vomiting, indigestion, constipation, abdominal cramps or pain, fullness of GI tract (bloating/flatulence). **Central Nervous System:** dizziness*, headache, nervousness. **Dermatologic:** rash* (including maculopapular type), pruritus. **Special Senses:** tinnitus*. **Metabolic:** decreased appetite, edema, fluid retention. Fluid retention generally responds promptly to discontinuation (see PRECAUTIONS).

*Incidence 3% to 9%.

Incidence less than 1 in 100

Gastrointestinal: gastric or duodenal ulcer with bleeding and/or perforation, hemorrhage, melena. **Central Nervous System:** depression, insomnia. **Dermatologic:** vesiculobullous eruptions, urticaria, erythema multiforme. **Special Senses:** amblyopia (see PRECAUTIONS). **Hematologic:** leukopenia, decreased hemoglobin, and hematocrit. **Cardiovascular:** congestive heart failure in patients with marginal cardiac function, elevated blood pressure.

Causal relationship unknown

Gastrointestinal: Hepatitis, jaundice, abnormal liver function. **Central Nervous System:** paresthesias, hallucinations, dream abnormalities. **Dermatologic:** Stevens-Johnson syndrome. **Special Senses:** conjunctivitis, diplopia, optic neuritis. **Hematologic:** hemolytic anemia, thrombocytopenia, granulocytopenia, bleeding episodes. **Allergic:** fever, serum sickness, lupus erythematosus syndrome. **Endocrine:** goiter, comastia, hypoglycemia. **Cardiovascular:** arrhythmias (Sinus tachycardia, bradycardia, and palpitations). **Renal:** decreased creatinine clearance, polyuria, hematuria.

OVERDOSAGE: Acute overdosage, the stomach should be emptied. Rufen is acidic and excreted in the urine; alkaline diuresis may benefit.

DOSAGE AND ADMINISTRATION: Rheumatoid arthritis and osteoarthritis, including flares of chronic disease. Suggested dosage 400 mg t.i.d. or q.i.d.

Mild to moderate pain: 400 mg every 4 to 6 hours as necessary for relief of pain. Do not exceed 2,400 mg per day.

CAUTION: Federal law prohibits dispensing without prescription.

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The New Tax Law: What You Should Know

William C. Blackman, CPA

The "Economic Recovery Tax Act of 1981" marks the beginning of a new era of tax planning and strategies. Physicians will benefit in significant ways, including decreased tax rates, tax sheltered retirement plans and investments, lower state and gift tax provisions, and special tax credits. As with any new legislation, there are also some changes that are adverse and should be avoided. Furthermore, North Carolina law does not automatically adopt the provisions of the new act, and, therefore, not all parts of the new law will apply for state tax purposes. Following are some major points of the new law and the related tax strategies.

LOWER TAX RATES

A substantial reduction in individual tax rates is being phased in over a three year period. For example, an individual with \$45,800 of taxable income filing a joint return would pay \$12,561 in taxes for 1981 and \$9,772 for 1984--a savings of \$2,789. Of more significance to physicians is the reduction in the maximum tax rate from 70% to 50% beginning in 1982. This means that a doctor with \$20,000 of unearned income taxed at 64% under the old law would now only be taxed at 50%--a savings of 14% or \$2,800.

What should your strategy be? The answer lies in proper timing of income and deductions. Try to defer income until 1982, when it can only be taxed at a maximum rate of 50%. Accelerate your deductions in 1981 so as to reduce your taxable income this year, knowing that any reduction could save you more than 50%. For example, pay pledges to charitable organizations in advance or take certain losses in 1981, when they have the potential to offset taxes at current rates of up to 70%.

The author is with the firm of Blackman and Sloop of Chapel Hill, North Carolina.

There are two more reductions in tax rates of which you should be aware. First, the maximum tax rate on long-term capital gains is reduced from 28% to 20% effective for sales or exchanges occurring after June 9, 1981. Second, the alternative minimum tax rate is reduced from 25% to 20% for tax years beginning after 1981.

CAUTION. There is a hidden problem with regard to reduced tax rates. Your 1981 withholding will be less than you expected, i.e., your withholding plus your estimated tax payments may not equal enough to avoid a penalty for underpayment of 1981 taxes. You need to make sure your withholding for 1981 will be as much as for 1980, or you could have a penalty for underpayment of estimated taxes.

HIGHER INTEREST and PENALTY CHARGES. One item to watch out for in the new law is the increased interest and penalty charges. The current rate is 12% payable to the IRS for interest on underpaid taxes and for penalties on underpayment of estimated taxes. Effective February 1, 1982, the rate will be adjusted to reflect the prime interest rate during September, 1981--this is sure to be in the 20% range.

NEW DEPRECIATION AND INVESTMENT CREDIT RULES

Depreciation of automobiles, equipment, and real property will be done according to an "accelerated cost recovery system" (ACRS) beginning January 1, 1981. Essentially, this system provides that business automobiles will be depreciated over three (3) years; business equipment over five (5) years; and real property over fifteen (15) years. For example, a \$200,000 office building completed in January of 1982 would produce \$24,000 of depreciation under ACRS but only \$10,000 under old law (assuming a 30 year life and 150% DDB).

In conjunction with the depreciation changes, the investment tax credit rules have been revised so that 3 year property qualifies for 60% of the credit, and 5 year property qualifies for 100% of the credit. For example, a \$12,000 business automobile qualifies for a \$750 credit versus a \$400 credit under the old law.

If you are contemplating new office space, consider renovating an old building. The Act provides for a credit on qualified rehabilitation expenditures for years after 1981. A 30 year old building qualifies for a 15% credit; a 40 year old building, a 20% credit; and "certified historic structures," a 25% credit. You must substantially renovate the building, which means the

rehabilitation must exceed the greater of the adjusted basis of the property of \$5,000.

In addition to the above items, there are some basic points to check when considering depreciation questions with your CPA:

- The rate of depreciation under ACRS is the same for new and used property.
- You may elect straight-line depreciation in lieu of the ACRS method.
- For real property, the old component depreciation is eliminated.
- Additional first year depreciation is eliminated effective after 1980.
- For business property placed in service in tax years beginning in 1982, you can expense up to \$5,000 per year as opposed to depreciating it. (This increases to \$7,500 in 1984 and 1985 and to \$10,000 in 1985 or thereafter.)
- All ACRS depreciation on nonresidential real property is taxed as ordinary income upon subsequent disposition to the extent there is a gain.

RETIREMENT

The rules on retirement plans have been changed for years beginning after 1981. If you have a Keogh plan, the \$7,500 limitation for 1981 is increased to \$15,000 in 1982. The 15% limitation on self-employment income still applies.

Effective in 1982, there are new provisions for individual retirement accounts (IRAs). First, the ceiling on annual contributions to an IRA has been raised from \$1,500 to \$2,000. In addition, the Act allows an individual to contribute an amount equal to all of his/her compensation for the year, up to the \$2,000 limit. This means that a spouse working part-time earning \$5,000 a year could contribute \$2,000 to an IRA. Therefore, a doctor and spouse can contribute an additional \$4,000 to a retirement plan in 1982. This is possible because the Act also provides that an individual can make a contribution to an IRA even though he/she is an active participant in a qualified employer or government plan. A faculty physician, for example, could start his/her own IRA or contribute an additional \$2,000 to an institutional "tax sheltered annuity."

ESTATE and GIFT TAXES

Most of what has been publicized on estate taxes has emphasized the large reduction in estate taxes. However, most physicians will find that estate tax planning is still necessary and should plan accordingly. Here are some basic points to consider.

First, the amount of your estate exempt from tax will be \$225,000 in 1982, and the exemption (Unified Tax Credit) increases each year until 1987, when it peaks at \$600,000. This means that the liquidity needs of your estate may steadily decrease over the next six years.

Second, beginning in 1982, there is no limit on the marital deduction for property passing to the surviving spouse. But, you should have your will reviewed immediately to insure that you can take advantage of this provision. Certain clauses in old wills may bar use of this deduction.

Finally, beginning in 1982, gifts made to a spouse will enjoy an unlimited gift tax deduction. Also, gifts to children or other donees will be exempt from gift tax up to \$10,000 per donee. For those wanting to make lifetime transfers to family or friends this provision represents a significant increase over the old \$3,000 exclusion.

HOW DOES NORTH CAROLINA TREAT THE NEW TAX LAWS?

North Carolina has its own tax legislation, independent of the federal tax code. All states have the constitutional right to exercise their authority regarding taxation, but many have chosen to follow the federal code more closely than has North Carolina. Therefore, adoption of most of the provisions in the "Economic Recovery Tax Act" will require legislative action. However, concerning the items reviewed here, some predictions can be made. The ACRS depreciation system will be followed in North Carolina. Do not anticipate any decrease in the state's individual income tax rates or any special capital gains treatment. In general, retirement plan provisions have been accepted by the state, but estate and gift tax provisions will require legislative action. North Carolina estate taxes are gaining more importance relative to federal estate taxes and should be an integral part of your planning.

White anticipates that a better understanding of PALA could lead to more effective use of the drug, most likely in combination with other drugs.

* * *

Dr. Michael Tytell, assistant professor of anatomy at Bowman Gray, is conducting research with squids in an effort to better understand how nerve function is maintained in the giant axons associated with squid nerve cells.

Tytell's specific interest is in glial cells in the axon. The glial cells are small cells tightly adhering to the axon and, according to Tytell, are the "only things in the piece of axon capable of making proteins. Proteins made in the glial cells are transferred to the axon."

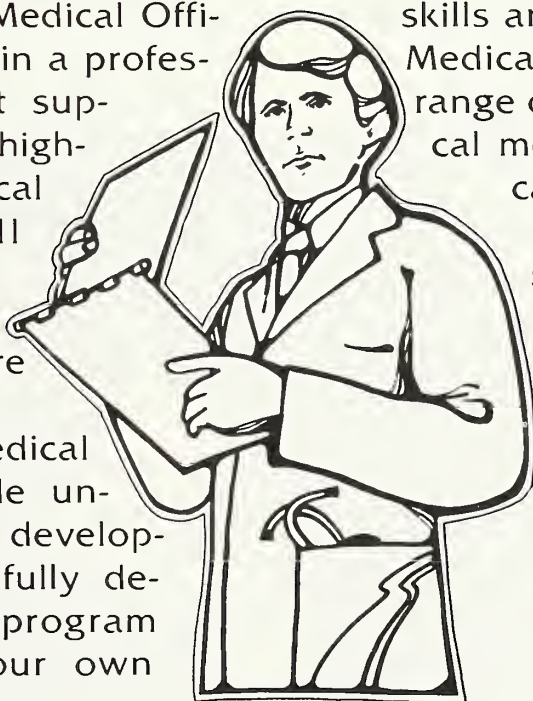
Tytell wants to determine which specific proteins are being transferred to the axon. He believes that more than 100 different proteins are involved in the process.

He spent last summer at the Marine Biological

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Laboratory at Woods Hole, Mass., studying the squid. It was his fourth summer there conducting research.

He explains that research on glial cells should tell him more about what happens when a nerve cell is severed. The study may also give clues on how to produce conditions to stimulate nerve regeneration. And that knowledge may help doctors better treat severed spinal cords or diseases such as multiple sclerosis.

"The basic question," he said, is: "What's the role of the glial cell in the support of nerve function. We're trying to answer that question at the molecular level."

* * *

Dr. Robert G. Dillard, associate professor of pediatrics, has received the Distinguished Service Award of the North Carolina Public Health Association. Dillard is chairman of the fetus and newborn committee of the state Pediatric Society and is chairman of the state-wide Perinatal Council.

* * *

Dr. Richard Janeway, dean, has been honored by election to membership in the Institute of Medicine. The institute was chartered in 1970 by the National Academy of Sciences to enlist distinguished members of the medical and other professions for the examination of policy matters pertaining to the health of the public. His five-year term is effective Jan. 1, 1982.

* * *

Dr. Joseph E. Johnson, professor and chairman of the Department of Medicine, has been appointed a national delegate to the 1981 White House Conference on Aging. Dr. James C. Romeis, assistant professor of sociology, has been selected as a member of the North Carolina delegation to the conference. He will serve on the Health Care and Services Committee. The four-day conference is designed to make recommendations for a national policy on aging. The proposed policy, together with recommendations for its implementation, will be presented to President Reagan and to Congress.

* * *

Dr. George Podgorny, clinical associate professor of surgery (emergency medicine), has been elected the first chairman of the Residency Review Committee in Emergency Medicine of the Accrediting Council on Graduate Medical Education.

* * *

Dr. C. Glenn Sawyer, professor of medicine (cardiology), through his membership on the board of the North Carolina Heart Association, will serve on the subcommittee to plan the Scientific Sessions for the annual meeting of the North Carolina Heart Association, to be held in Winston-Salem in 1982.

Dr. Earl Schwartz, assistant professor of surgery (emergency medicine), has been elected a member of the ad hoc Emergency Cardiac Care Subcommittee of the American Heart Association. He also has been elected chairman of the Advanced Cardiac Life Support Committee of the American College of Emergency Physicians.

* * *

Dr. Stephen A. Yokeley, dental education director of the Northwest AHEC, has been awarded an Academy of General Dentistry fellowship.

News Notes from the

DUKE UNIVERSITY MEDICAL CENTER

Because the number of older Americans is growing, Duke University Medical Center has formed a new division of geriatric medicine.

"The division was formed because we realized that we need to pay more attention to the needs of the older members of our population, especially in terms of their clinical care," said Dr. Harvey Jay Cohen, professor of medicine and newly appointed director of the division. Cohen said the division will serve as "the point for activities in geriatric medicine at the medical center."

Cohen joined the Duke faculty as an associate in medicine in 1971. He was chief of the hematology/oncology section at the VA Medical Center and has been chief of the VA Medical Service since 1976. He is the author or co-author of more than 50 scientific publications and the widely used textbook, "Medical Immunology."

* * *

Dr. Ewald W. Busse, associate provost and dean of medical and allied health education at Duke, is chairman of the Geriatrics and Gerontology Advisory Committee. The committee was formed to evaluate and make recommendations for change in the Veterans Administration medical services.

"The large number of older veterans places a tremendous strain on the VA medical system," Busse said. "Already nearly half of this country's males over 65 are veterans, and within the next few years, millions of American World War II veterans will reach that age group."

Busse is an internationally known gerontologist and psychiatrist who is a charter member of the 1982 White House Conference on Aging and also serves on the Advisory Council of the National Institute on Aging.

* * *

Duke Medical Center tests of a new class of drugs — called calcium blockers — show great promise for the

treatment of heart disease and hypertension, according to a Duke researcher.

"The range of what this class of drugs can be used for is dramatic," said Dr. Edward Pritchett, assistant professor of cardiology. Pritchett has been testing the use of a calcium blocker drug called verapamil, which received approval from the Food and Drug Administration (FDA) in August. He's tested the drug for its effectiveness in treating supraventricular tachycardia.

Pritchett collaborated closely with a Duke clinical pharmacologist, Dr. David Shand, to determine the levels of the drug obtained in the blood by varying doses. Duke is one of about 15 or 20 research centers in the U.S. researching the calcium blocker drug, he said, but is one of only a few centers that has so carefully researched the blood levels of the drug.

Another Duke physician, Dr. Robert H. Peter, professor of medicine and associate director of the cardiovascular laboratory, predicts the new class of drugs "will revolutionize the medical treatment of angina pectoris."

Peter has been researching another calcium blocker, nifedipine, in the treatment of Prinz-metal angina. Over the past two years, Peter said he has given the drug to more than 30 patients. One-third of those patients suffered coronary spasms without evi-

dence of blockage, and two thirds of them suffered coronary spasms combined with arteriosclerosis.

* *

A group of medical center faculty members who have given a total of 206 years of service to Duke retired Sept. 1. Retiring as professors emeriti are Drs. George Baylin Jr., J. Lamar Callaway, Guy L. Odom and R. Wayne Rundles. Dr. Kenneth L. Duke retired as associate professor emeritus.

"Each faculty member in his own way has brought national and international distinction to the medical center," said Dr. William G. Anlyan, vice president for health affairs. "They represent a generation of leaders who helped Duke University Medical Center in its transition to maturity."

A professor of radiology and otolaryngology in the Department of Surgery, Baylin received his M.D. from Duke in 1937 and began as an instructor in 1941. He served fellowships in pathology at Guy's Hospital in London from 1938-39 and in radiology at the Karolinska Institute in Stockholm in 1951.

Baylin served as chairman of both the Cancer Operational Committee at Duke and the radiology section in the North Carolina Medical Society. He was treasurer of the Duke Medical Alumni Association. He



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received the 1950 N.C. Medical Society Award (Moore County) and was presented with the SAMA Golden Apple Award in 1965. Baylin was awarded the Duke Medical Alumni Distinguished Teaching Award in 1976.

Callaway, James B. Duke Professor of Dermatology in the Department of Medicine, received his medical degree from Duke in 1932. He earned a B.S. in medicine from Duke and the University of Alabama in 1935. He joined the Duke staff in 1937.

Callaway has worked on the editorial boards of several medical journals and has published 128 articles, is co-author of two textbooks and has written two educational films on fungus disease. His service to Duke includes: chairman of the committee to design the official Duke University Flag and Shield; service on the honorary degrees committee; and three terms as vice-chairman of the Executive Committee Academic Council. He celebrated his 50th year at Duke in June.

An associate professor in the Department of Anatomy, Duke earned his Ph.D. in anatomy here and became an instructor in 1940. He has been a visiting member of the anatomy staff at the University of Missouri, the University of North Carolina, the University of Tennessee and Brigham Young University.

As a recipient of the Allan Gregg Travel Fellowship in Medicine, Duke spent six months in Malaya in 1961.

He served on the editorial board of the Journal of Mammalogy, on the admissions committee of the medical center and as the director of graduate studies in anatomy.

Odom received his M.D. from Tulane Medical School in 1933. He did his postgraduate work in neurology at the East Louisiana State Hospital from 1933-37 and at the Montreal Neurological Institute from 1937-42. Odom joined Duke as an associate in 1943. He served as chairman of the neurosurgery division from 1960-76 and was appointed James B. Duke Professor of Neurosurgery in 1974.

Odom is an active member of more than 30 professional committees and societies. The American Academy of Neurological Surgery honored him with the Neurosurgeon Award in 1972. He received the society of Neurological Surgeons Distinguished Service Award in 1978, and in 1977 he was awarded the Distinguished Teaching Award by the Duke Medical Alumni Association.

Rundles, professor of medicine and head of the hematology and chemotherapy service, earned his Ph.D. from Cornell University in 1937 and his M.D. from Duke in 1940. He did post-graduate work at the University Hospital of Ann Arbor from 1940-43 and joined the Department of Medicine in 1945.

Active in the American Cancer Society, Rundles served as director-at-large, chairman of the medical and scientific advisory committee and president of the association in 1978. He has written more than 110 publications pertaining to neuroanatomy, diabetes, pernicious and hereditary anemias, plasma cell myeloma, leukemia, cancer chemotherapy, allopurinol and gout.

* * *

Awards, Grants, Fellowships

Cynthia M. Kuehn, assistant professor of pharmacology, received a \$64,473 research grant from the National Institute of Drug Abuse to study "Opiate Effects on Maturation of Endocrine Regulation."

Jack D. Keene, assistant professor in the division of microbiology, received a \$154,500 faculty research award from the American Cancer Society.

Sheldon R. Pinnell, professor in the division of dermatology, received a \$77,535 research service award from the National Institute of Arthritis, Metabolism and Digestive Diseases.

Patricia J. Baker, assistant medical research professor in the Department of Pediatrics, was awarded a \$55,412 research grant from the National Institute of Arthritis, Metabolism and Digestive Diseases to study interactions of cultured kidney cells with complement.

Chia-Sheng Lin received a \$96,630 grant from the National Institute of Neurological and Communicative Disorders and Stroke. Lin is studying the structure and function of the visual cortex.

Saul M. Schanberg, professor in the Department of Pharmacology, received a \$38,362 award from the National Institute of Mental Health. Schanberg is

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Reinhardt H. Schindler in the Department of Ophthalmology received a \$7,500 postdoctoral research fellowship from Fight for Sight, Inc. of the National Council to Combat Blindness, Inc.

Samuel W. Warburton Jr., chief of the division of family medicine and associate professor of community and family medicine, was awarded \$259,080 for family medicine training from the division of medicine in the Department of Health and Human Services.

Harold E. Lebovitz, professor of medicine, and associate professor of physiology, received a \$103,962 research grant from the National Institute of Arthritis, Metabolism and Digestive Diseases to study intermediary metabolism.

Richard S. Surwit, associate professor of psychiatry and assistant professor of medicine, received a \$38,362 development award from the National Institute of Mental Health. Surwit is studying "Behavioral Control of Peripheral Vascular Diseases."

Robert A. Rosati, director of Clinical epidemiology and associate professor in the Department of Medicine, received a \$212,419 grant for computer technology training from the National Library of Medicine.

William W. Shingleton, professor and chief of the division of general and thoracic surgery and director of the Comprehensive Cancer Center, received a \$105,389 grant from the National Institute for a Clinical Cancer Education Program.

Lawrence B. Lachman, assistant medical research professor in the division of immunology, was awarded a \$111,492 grant from the American Cancer Society for his program, "Biological Studies of Human Interleukin 1."

Bjorn Carlborg, in the Department of Surgery, was awarded a \$24,734 international fellowship from the Fogarty International Center.

Sue Y. Kimm, assistant professor in the division of pediatric cardiology, received a \$84,294 academic career award from the National Heart, Lung and Blood Institute for preventive cardiology.

News Notes from the

EAST CAROLINA UNIVERSITY

SCHOOL OF MEDICINE

The East Carolina University School of Medicine sponsored a symposium entitled "Natural Abilities and Perceived Worth: Rights, Values and Retarded Persons" October 1-3.

Guest speakers included philosophers, physicians, lawyers, theologians and educators from throughout the United States. Two lecturers, Michael Kindred and David Rothman, were members of the President's Committee on Mental Retardation.

The thirty-five member faculty examined attitudes, language and standards of education and care regarding retarded persons.

Faculty members representing ECU included: Dr. Arthur E. Kopelman, professor of pediatrics; Dr. Loretta M. Kopelman, associate professor of pediatrics and humanities; Dr. Theodore Kushnick, professor of pediatrics and genetics; Dr. William E. Laopus, dean of the medical school; Dr. James L. Mathis, professor and chair of psychiatric medicine; Dr. John C. Moskop, assistant professor of pediatrics and humanities; Dr. Spencer O. Raab, professor of medicine; Dr. Eugene Ryan, professor and chair of philosophy; and Dr. Jon B. Tingelstad, professor and chair of pediatrics.

The program was supported by the School of Medicine and the N.C. Humanities Committee, a foundation supported by federal funds and private gifts. The Committee provides grants to encourage and assist public education in the humanities for adults.

Leadership for the conference was provided by Drs. Loretta Kopelman and John Moskop, members of the medical school's humanities section faculty. The section presents philosophy and medicine curriculum to medical students, resident physicians and faculty.

* * *

Dr. Allen F. Bowyer, professor of medicine, recently attended the Third Annual Conference of Engineering in Medicine and Biology Society of the Institutes of Electrical and Electronics Engineering in Houston.

While at the conference, Bowyer presented two papers co-authored by Dr. Lynn H. Orr, assistant professor of medicine. The papers were entitled "Left Ventricular Wall Motion Analysis by a Novel Vector Analysis Method" and "Information Theory Application for Determination of Diagnostic Discriminant Values of Coronary Stenosis and Left Ventricular Dysfunction."

* * *

Dr. E. Jackson Allison Jr., associate professor and chairman of the Department of Emergency Medicine, has been elected secretary-treasurer and alternate councillor of the North Carolina chapter of the American College of Emergency Physicians.

In addition, Allison recently was named an affiliate faculty member for advanced cardiac life support courses sponsored by the North Carolina chapter of the American Heart Association.

Allison also was appointed to the advanced trauma life support group sponsored by the American College of Surgeons and the N.C. Committee on Trauma.

* * *

Dr. David R. Garris, assistant professor of anatomy, recently published "Progesterone Levels and Corpus Luteum Structure in the Female Prairie Dog"

at the Society for the Study of Reproduction meeting held in Corvallis, Oregon.

Garris also co-authored an article appearing in the August issue of the *American Journal of Physiology*. The article is entitled "Uterine Blood Flow and Timing of Blastocyst Implantation in the Guinea Pig."

* * *

Dr. S. Jamal Mustafa, associate professor of pharmacology, recently attended the Eighth International Congress of Pharmacology held in Tokyo where he participated in the symposium on physiology and pharmacology of adenosine derivatives.

While in Japan, Mustafa also was a visiting professor for the Department of Pharmacology at the Niigata University School of Medicine and presented a research seminar entitled "Adenosine Receptors in the Heart."

He also traveled to Thailand to present a research seminar for the Department of Science at Mahidol University in Bangkok.

* * *

Dr. James A. Nickelsen, assistant professor of pediatrics, co-authored "Local Intranasal Immunotherapy for Ragweed Allergic Rhinitis." The article appeared in the July issue of *The Journal of Allergy and Clinical Immunology*.

Dr. Donald R. Hoffman, associate professor of pathology and laboratory medicine, published two articles in the July issue of *Annals of Allergy*. The articles are "Allergens in Hymenoptera Venom VII. Species Specific Reactivity to Yellow Jacket Venoms" and "The Major Heart Stable Allergen of Shrimp."

Hoffman also published "Methods in Enzymology" as a chapter in the book *Volume 73: Immunochemical Techniques, Part B*. The book is published by Academic Press.

* * *

Dr. Eugene D. Furth, professor and chairman of the Department of Medicine, presented a grand rounds lecture entitled "The Thyroid Nodule Revisited" at University Hospital in Jacksonville, Fla. on September 23.

* * *

Dr. A. Dewane Frutiger, associate director of the Developmental Evaluation Clinic, recently attended the DEC Directors Association meeting in Durham. Frutiger presented "Developing Regional Physical Therapy/Occupational Therapy Consortiums."

* * *

Dr. David A. Gordon, second-year surgery resi-

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dent, recently was awarded the Charles E. Culpeper Fellowship to study vascular and transplantation surgery. Gordon is a graduate of the Medical College of Virginia.

* * *

Dr. Joseph E. Williamson, assistant professor of emergency medicine, has been appointed to the board of trustees of the Eastern North Carolina chapter of the American Red Cross. As a trustee, Williamson is responsible for coordinating disaster planning for the tidewater regions of North Carolina and Virginia.

* * *

Dr. Seymour Bakerman, professor and chairman of the Department of Pathology and Laboratory Medicine, has been appointed to the editorial advisory board of *Laboratory Management*, a journal of technology for laboratory directors and supervisors.

* * *

Dr. Sam N. Pennington, professor of biochemistry, has received a \$27,039 grant from the N.C. Alcoholism Research Authority. Pennington's research will examine "The Interaction of Ethanol and Brain Prostaglandins in the Biochemical Etiology of Alcoholism."

* * *

Dr. Alphonse J. Ingenito, associate professor of pharmacology, presented a paper entitled "Relationships Between the Hypotensive Effect of Clonidine and Its Distribution in Cat Brain" to the Symposium on Neurogenic Hypertension held at the University of Pittsburgh School of Medicine on September 30. Dr. Mona B. McConnaughey, pharmacology research associate, collaborated with Ingenito on the paper.

* * *

Eight faculty members at the School of Medicine received promotions this summer. Dr. Arthur Kopelman was named professor of pediatrics. Dr. Leonard S. English (microbiology), Dr. S. Gregory Iams (physiology) and Dr. Jarlath MacKenna (obstetrics and gynecology) were appointed associate professors. Dr. Loretta Kopelman (pediatrics and humanities) and Dr. S. Gregory Iams (physiology) were awarded permanent tenure. Named assistant professor were Donna B. Flake (Health Science Library), Dr. P. G. Khazanie (pathology), Dr. Gary I. Levine (family medicine) and Dr. Kathleen Rao (pediatrics).

* * *

Dr. Robert R. Sloss has been named assistant professor of pathology. He received his undergraduate and medical degrees from the University of Louisville. He completed postgraduate training at the Naval Regional Medical Center, Portsmouth, Va.

He formerly was staff pathologist at Camp Lejeune.

* * *

Dr. L. Jarrett Barnhill Jr., a child psychiatrist, has

been appointed assistant professor of psychiatry. He will direct the residency training program in the Psychiatry Department and be responsible for the development of a pediatric liaison program with the ECU pediatrics department and the Pitt County Mental Health Center.

Barnhill was a member of the ECU faculty in 1979 prior to spending a year at the Bowman Gray School of Medicine as assistant professor of psychiatry.

A native of Robersonville, he received his undergraduate degree from the University of North Carolina at Chapel Hill and his M.D. from the Bowman Gray School of Medicine. He completed postgraduate training at North Carolina Memorial Hospital, Chapel Hill, and North Carolina Baptist Hospital, Winston-Salem.

* * *

Dr. Sydney Barnwell, assistant dean for minority affairs, has been installed as president of the Old North State Medical Society, the nation's oldest state association of black physicians.

* * *

Dr. Phillip H. Pekala has been appointed assistant professor of biochemistry. He formerly was a post-doctoral research associate at the Johns Hopkins University School of Medicine.

He received his undergraduate degree from St. Vincent College, his master's degree from Indiana University of Pennsylvania and his doctoral degree from Virginia Polytechnic Institute.

His primary research area is the regulation of gene expression.

* * *

Dr. Sudhakar Madakasira has been named assistant professor of psychiatry. He comes to ECU from the University of Kansas Medical Center, where he recently completed residency training and served as chief resident.

He received his medical degree from Sri Venkateswara Medical College, Tirupati, India. He did postgraduate training at S.V.R.R. Hospital in Tirupati.

His primary research areas are psychopharmacology and psychiatric aspects of medical illness.

News Notes from the

**UNIVERSITY OF NORTH CAROLINA-
CHAPEL HILL SCHOOL OF MEDICINE
AND
NORTH CAROLINA MEMORIAL HOSPITAL**

Dr. George Johnson Jr., chief of vascular surgery and vice chairman of the Department of Surgery, has been named an associate chief of staff at North Caro-

lina Memorial Hospital. Effective Sept. 1, his new duties include coordination of the medical staff aspects of care for patients admitted to N.C. Memorial Hospital.

He also holds the title of assistant to the office of the dean in the medical school, and retains his responsibilities in the Department of Surgery.

Johnson, who was named Roscoe Cowper Distinguished Professor of Surgery in 1973, joined the University faculty in 1961. He received his certificate in medicine from the University and earned the M.D. degree at Cornell University Medical College.

* * *

The appointments of four new faculty members at the School of Medicine have been announced by Chancellor Christopher C. Fordham III.

Dr. Michael F. Fleming has been appointed assistant professor of family medicine effective Aug. 14 and Dr. J. Herbert Patterson has been named assistant professor of pharmacy effective Aug. 15. Dr. Donald A. O'Neill was appointed assistant professor of surgery and Dr. Mary E. Van Bourgondien, assistant professor of psychiatry, effective Sept. 1.

Fleming joins the faculty after serving as an assistant professor at Michigan State University since 1979 and having a private practice in Hancock, Mich., since 1977. He earned his B.S. degree in 1979 from Michigan Technological University and his M.D. in 1974 from Wayne State University.

Patterson was formerly assistant professor and clinical pharmacist at the University of Tennessee. A native of Tennessee, he received his B.S. degree in 1977 and Phar. D. in 1979 from the University of Tennessee.

O'Neill comes from Massachusetts General Hospital, where he was an associate in reconstructive orthopaedic surgery. He was a resident in orthopaedic surgery at N.C. Memorial Hospital from 1976-80. A New York native, he earned his A.B. in 1969 from Columbia College and his M.D. in 1973 from Columbia University.

Van Bourgondien was a visiting clinical assistant professor at UNC-CH from March-July. She has worked as an intern, postdoctoral fellow and staff psychologist with the Division of Disorders of Development and Learning.

* * *

Dr. Eugene S. Mayer, director of the Area Health Education Centers, has been appointed to a statewide task force to examine the nursing shortage in North Carolina. Raymond H. Dawson, UNC vice president for academic affairs, also will serve on the group comprised of representatives of major organizations involved in nursing uses.

The task force has been activated by the Program on Access to Health Care and is charged with examining nursing problems in educational and hospital settings. It is funded through the N.C. Hospital Education and Research Foundation.

The Sigmund Sternberger Foundation of Greensboro has established an endowment to fund scholarships for students at the School of Medicine.

The foundation has made annual contributions to support Sigmund Sternberger scholars since 1970. The foundation's board of directors recently voted to perpetuate the scholarships by endowing them, according to Leah Louise B. Tannenbaum, chairman. Sternberger scholarships are awarded to students from North Carolina who are genuinely interested in practicing medicine in the state. A priority is given to those from Guilford County.

* * *

Three have been promoted associate professor in the UNC-CH School of Medicine. Donald K. Mitchell, medical allied health professions, and Barry R. Lentz, biochemistry, became associate professors Aug. 1, and A. Joseph D'Ercole, associate professor of pediatrics, effective September 1.

* * *

Dr. Thomas Curtis, professor and chairman of psychiatry, has been elected Vice Chief of Staff at North Carolina Memorial Hospital for 1981-82. Dr. Edward Shahady, professor and chairman of family medicine, was elected secretary, and Dr. Colin Hall, associate professor of neurology, was named to serve as member-at-large on the medical staff executive committee.

* * *

Dr. John Frey, associate professor of family medicine, has been awarded the 1981-1984 Family Medicine Faculty Department Grant.

* * *

Dr. William N. Herbert, assistant professor of obstetrics and gynecology, gave a presentation on the "Development of a Multi-Center Computerized Obstetrical Record" at the First International Symposium on Computers in Perinatal Medicine May 18-20 in Cleveland.

* * *

Dr. Glenn M. Preminger, surgery, presented a research paper on "Choriollantoic Membrane Grafting of the Embryonic Murine Kidney: An Improved in Vito Technique for Studying Kidney Morphogenesis" at the N.C. Chapter of the American College of Surgeons meeting in Boone.

* * *

John Aluisse, lecturer, family medicine, was a consultant in the areas of faculty development and practice management with the Department of Family Medicine at the University of Louisville, June 8-9 in Louisville, Ky.

* * *

William A. Rutala, research assistant professor of medicine, and Virginia A. Kennedy, medicine, pre-



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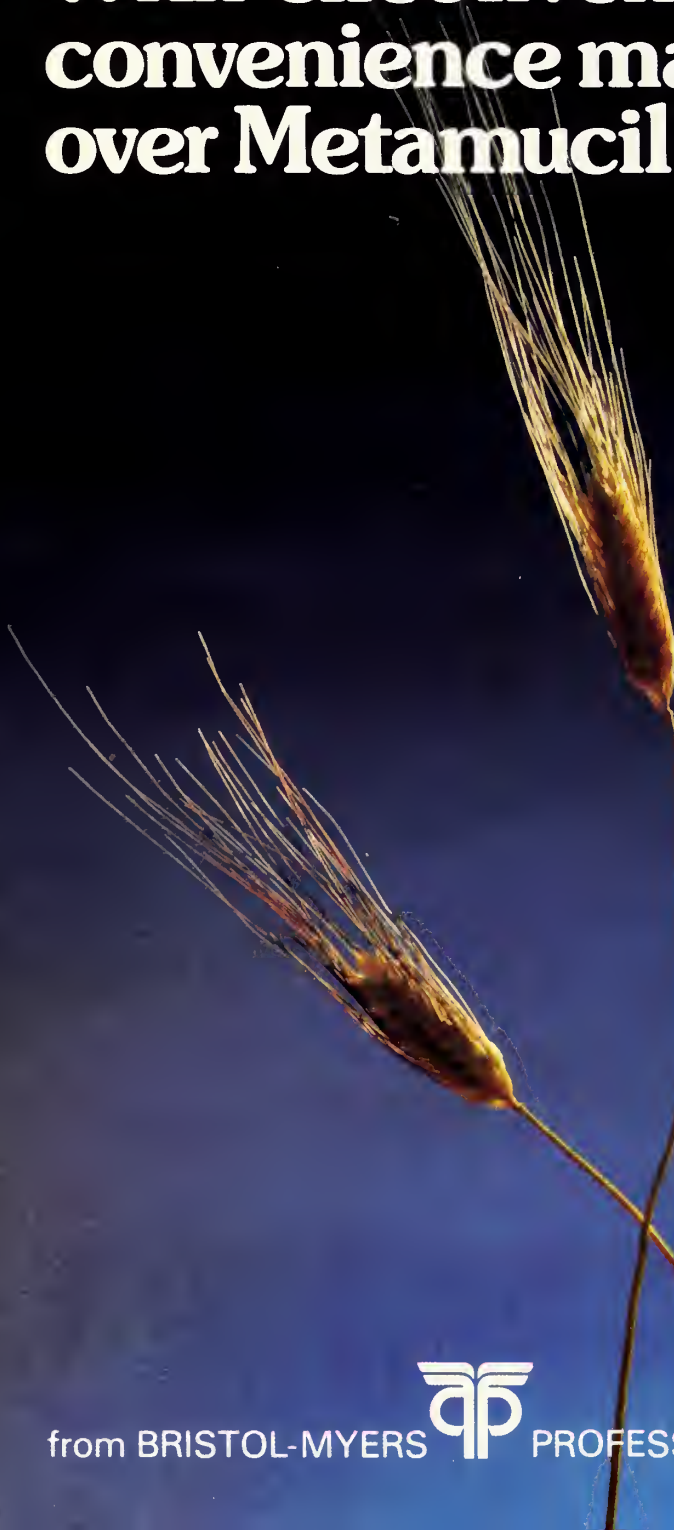


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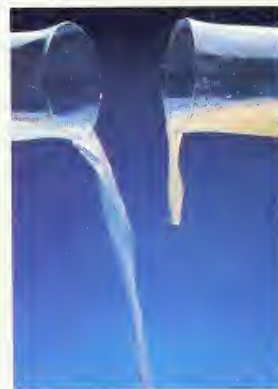
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sented papers at the National Association for Practitioners of Infection Control May 18 in Atlanta. Rutala also gave two papers at the Texas Society of Infection Control Practitioners June 9 in Dallas. Dr. Felix A. Sarubbi, associate professor of medicine, was co-author on each of the papers.

* * *

Roger L. Lundblad, professor pathology and biochemistry, was editor of "The Chemistry and Biology of Heparin" published by Elsevier North-Holland, Inc., New York, Developments in Biochemistry, Vol. 12, 1981.

* * *

Jack Griffith, associate professor of bacteriology, immunology, biochemistry and nutrition, and a member of the Cancer Research Center, published an article on "Filamentous Bacteriophage Contract into

Hollow Spherical Particles upon Exposure to a Chloroform-Water Interface" in the March 1981 issue of Cell.

* * *

Michael G. O'Rand, assistant professor of anatomy, spoke at the Cell Biology of the Testis meeting sponsored by the N.Y. Academy of Sciences, April 13-15 in New York City. He also spoke at a recent seminar at Temple University in Philadelphia.

* * *

Dr. Gordon F. Murray, professor of cardiothoracic surgery, has received a certificate of appreciation from the North Carolina Heart Association "for outstanding service in advancing the heart program and stimulating public support in the fight against disease of heart and circulation."

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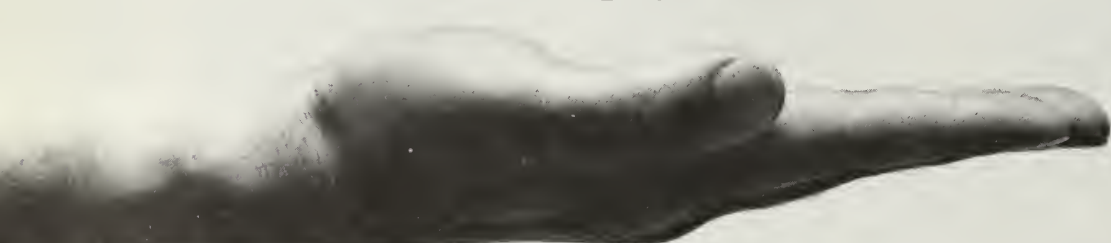
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| Charlotte Chest Laboratory | 863 | Ortega Pharmaceutical Company | 885 |
| Charlotte Treatment Center | 888 | Provident Mutual Life Insurance Co. | 876 |
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INDEX TO CONTRIBUTORS

| | | | |
|---|------|---|------|
| ADAMS, T. L. View from Raleigh | 370 | Part II: Happiness, Marriage And Family Life | 176 |
| AMA DIVISION OF MEDICAL PRACTICE Tips on Submitting Health Insurance Claims | 347 | Part III: Problems And Some Comments On Solutions .. | 274 |
| ATKINSON, D. Child Abuse or Neglect of Resident Live Births, Durham County, N.C. | 851 | LEVINE, R. Conjoint Report To North Carolina Medical Society | 656 |
| BAUCOM, C. D. Statement on Byssinosis | 189 | LIPPER, S. Childhood Burkitt-Type Lymphoma At The North Carolina Memorial Hospital | 29 |
| BECHTOLDT, A. A. Anesthetic-Related Deaths: 1969-1979 .. | 253 | LODA, F. Violence in North Carolina — Families Referred To A Child Protection Team | 35 |
| BLACK, Sir D. Apples of Discord | 789 | MACK, R. B. Toxic Encounters Of The Dangerous Kind | |
| BLAZER, D. Hypersomnia in Manic-Depressive Illness: A Case of Sleep Apnea | 781 | Acetaminophen Poisoning | 181 |
| BRAME, R. G. The New Tertiary Obstetrical Center: More Than Men And Machines | 705 | Antihistamine Toxicity | 648 |
| BURCH, W. M. JR. Thyroid Nodules: 1981 | 713 | Are Your Patients Speeding | 489 |
| BURKITT, D. P. The Protective Properties of Dietary Fiber .. | 467 | Camphor Poisoning | 278 |
| CARTER, J. H. The Use of Psychotropics In The Prison Setting | 645 | Diphenoxylate (Lomotil) | 858 |
| COOPER, J. The Healer's Art: The Doctor Through History. A Book Review of | 351 | Hydrocarbon Ingestion | 338 |
| COOPER, M. R. Intensive Plasma Exchange in Thrombotic Thrombocytopenic Purpura (TTP) | 403 | Methaqualone Intoxication | 796 |
| CURTIS, S. E. The Diminishing Mortality of Coronary Artery Bypass Grafting For Myocardial Ischemia | 637 | Narcotic Triad, The | 110 |
| DeMARIA, A. A. JR. Spontaneous Brainstem Hematoma — Analysis of Cases Verified By Computed Tomography | 99 | Phencyclidine — "angel dust" | 407 |
| DOWLING, L. O. Practice Management: On the Importance of Checking References | 729 | Speeding | 560 |
| The Patient As Partner | 655 | Toxic Ingestion | 51 |
| ENSOR, R. D. Experience With The Inflatable Penile Prosthesis In The Treatment of Organic Impotence | 786 | Tricyclic Antidepressant Overdose | 724 |
| FARMER, T. W. Spontaneous Brainstem Hematoma — Analysis of Cases Verified By Computed Tomography | 99 | MANDELL, J. Diagnosis And Management Of Pyeloureteral Necrosis Following Renal Transplantation | 327 |
| FARRAN, D. Unemployment: The Health Consequences in Children | 849 | MANDELL, S. R. Diagnosis And Management Of Pyeloureteral Necrosis Following Renal Transplantation | 327 |
| FARROW, S. C. Primary Care In Local Health Departments: The Practitioners' View | 167 | MARGOLIS, L. H. Unemployment: The Health Consequences In Children | 849 |
| FELTS, Mrs. J. H. Friendship Force, The | 737 | MASSEY, C. Medical Care in North Carolina Jails | 554 |
| FLETCHER, J. D. Child Abuse Or Neglect of Resident Live Births, Durham County, North Carolina | 851 | MASSEY, E. W. North Carolina Medical Curiosities | |
| High Risk Indicators of Fetal And Neonatal Mortality in Durham County, North Carolina | 472 | Heaviest Man On Record, The | 181 |
| FLOYD, W. L. The Diminishing Mortality of Coronary Artery Bypass Grafting For Myocardial Ischemia | 637 | Modern Bearded Lady, The | 408 |
| FORE, W. W. Pharmacy And Medicine | 496C | Two-Headed Girl, The | 343 |
| GADDY, D. Childhood Burkitt-Type Lymphoma At The North Carolina Memorial Hospital | 29 | Two People In One — Siamese Twins | 278 |
| HARRISON, W. Primary Care in Local Health Departments: The Practitioners' View | 167 | MASSEY, E. W. Peroneal Palsy In Patients With Dementia | 711 |
| HEBBERT, V. Violence in North Carolina — Families Referred To A Child Protection Team | 35 | MATHIS, J. L. Rauwolfia Serpentina Revisited | 401 |
| HERNDON, A. Illness Onset And Levels Of Health Care Provided: A Study of 213 Families | 548 | MacKENNA, J. The New Tertiary Obstetrical Center: More Than Men And Machines | 705 |
| HILLIARD, W. N. North Carolina PSROs — Temporarily Escape Budget Ax | 465 | McLEAN, W. T. Neonatal Cerebral Ultra-Sonography | 642 |
| HOFFMAN, D. R. Hymenoptera Venom Allergy — From The Immunology Research Laboratory To Clinical Practice .. | 477 | McMILLAN, C. Childhood Burkitt-Type Lymphoma At The North Carolina Memorial Hospital | 29 |
| HOPPER, W. F. Acute Beryllium Lung Disease | 551 | MICHELUTTE, R. L. Illness Onset And Levels Of Health Care Provided: A Study Of 213 Families | 548 |
| HUBBARD, A. H. Research And Romance Of Medicine .. Report of the President To The Executive Council Of The North Carolina Medical Society | 288 | MORRIS, J. J. The Diminishing Mortality Of Coronary Artery Bypass Grafting For Myocardial Ischemia | 637 |
| JELLINEK, P. S. Primary Care in Local Health Departments: The Practitioners' View | 167 | MORROW, S. T. Rural Health Services | 419 |
| JONES, D. E. D. The New Tertiary Obstetrical Center: More Than Men And Machines | 705 | MULLER, S. Dedicatory Address — Duke University Hospital, North Division | 715 |
| JONES, R. N. The Diminishing Mortality Of Coronary Artery Bypass Grafting For Myocardial Ischemia | 637 | NATIONAL INSTITUTES OF HEALTH Consensus Development Conference Statement. CEA: Its Role As a Marker In The Management Of Cancer | 600 |
| KALUZNY, A. D. Primary Care In Local Health Departments: The Practitioners' View | 167 | NEWELL, J. E. President's Acceptance Speech | 541 |
| KLEIN, A. B. High Risk Indicators Of Fetal And Neonatal Mortality In Durham County, North Carolina | 472 | NUGENT, R. R. Perinatal Mortality | 195C |
| KORNELUK, G. Practice Management: Effective Records Management | 413 | OLDHAM, H. N. JR. The Diminishing Mortality of Coronary Artery Bypass Grafting For Myocardial Ischemia | 637 |
| LANE, T. W. Toxic Shock Syndrome: Report Of Five Cases .. | 173 | OSTERHOUT, S. K. Acetaminophen Poisoning | 665C |
| LARSON, D. B. The Physician And Spouse | | Camphor Poisoning | 666C |
| Part I: Physician, Know Thyself — And Thy Mate | 106 | PARSONS, J. S. Contaminated Herbal Tea As A Potential Source Of Chronic Arsenic Poisoning | 38 |
| | | PASCOE, J. M. Violence In North Carolina, Families Referred To A Child Protection Team | 35 |
| | | PERL, T. M. Violence in North Carolina, Families Referred To A Child Protection Team | 35 |
| | | PROCTOR, R. C. Prescription Medication In The Workplace. Occupational Absenteeism, Accidents and Performance When Using Non-Psychoactive and Psychoactive Medication .. | 545 |
| | | QUICK, J. B. Attachment Of A Physician's Assistant To An English General Practice | 485 |
| | | REEDY, B. L. E. C. Attachment Of A Physician's Assistant To An English General Practice | 485 |
| | | REINHARDT, U. E. The Future Of Medical Enterprise: Perspectives On Resource Allocation In Socialized Markets .. | 265 |
| | | RHODES, J. S. The Raleigh Academy Of Medicine | 263 |
| | | ROACH, E. S. Neonatal Cerebral Ultrasonography | 642 |
| | | RUDNICK, S. A. Childhood Burkitt-Type Lymphoma At The North Carolina Memorial Hospital | 29 |
| | | SABISTON, D. C. JR. The Diminishing Mortality Of Coronary Artery Bypass Grafting For Myocardial Ischemia | 637 |

| | | | |
|---|------|---|-----|
| SCHWARTZ, R. P. Hereditary Deficiency Of Thyroxine-Binding Globulin | 475 | Sleep Disorders: Part I — Normal Sleep And The Diagnosis Of Sleep Dysfunctions | 783 |
| SCOTT, K. M. A Sampling Of Current Tuberculosis Management In Western North Carolina | 170 | Sleep Disorders: Part II — Disorders Of Excessive Somnolence | 854 |
| SELLERS, P. A. Joint Patient Care: Which Physician Should Be Paid — And For What | 335 | WALKER, W. R. Rauwolfia Serpentina Revisited | 401 |
| SHEARER, S. W. Clinical Pharmacy Practice | 496C | WEAVER, R. L. Neonatal Cerebral Ultrasonography | 642 |
| SOHMER, M. F. JR. Annual Address Of The President .. | 483 | WEBB, A. JR. A Definitive History Of The Raleigh Academy Of Medicine | 260 |
| Message Of The President To The House Of Delegates .. | 481 | WECHSLER, A. S. The Diminishing Mortality Of Coronary Artery Bypass Grafting For Myocardial Ischemia | 637 |
| SPRUNG, D. J. Miliary Tuberculosis, With Adult Respiratory Distress Syndrome And A Leukemoid Reaction | 709 | WELSHIMER, P. Medicine In Old Salem: THE VIERLING HOUSE | 53 |
| SPUDIS, E. V. The Soul In Left-Handers: A Neurologic Site Visit | 331 | WHALEN, R. The Diminishing Mortality Of Coronary Artery Bypass Grafting For Myocardial Ischemia | 637 |
| STEVENS, P. S. Diagnosis And Management Of Pyeloureteral Necrosis Following Renal Transplantation | 327 | WILSON, W. D. JR. Hereditary Deficiency Of Thyroxine-Binding Globulin | 475 |
| STEWART, T. I. Attachment Of A Physician's Assistant To An English General Practice | 485 | WILSON, W. P. The Physician And Spouse: Part I — Physician, Know Thyself and Thy Mate | 106 |
| STUART, J. J. Intensive Plasma Exchange In Thrombotic Thrombocytopenic Purpura (TTP) | 403 | Part II — Happiness, Marriage, And Family Life | 176 |
| TAYLOR, A. <i>Case Studies In Medical Ethics</i> , A Book Review Of | 350 | Part III — Problems And Some Comments On Solutions | 274 |
| TAYLOR, N. Medical Care In North Carolina Jails | 554 | WOLFE, W. G. The Diminishing Mortality Of Coronary Artery Bypass Grafting For Myocardial Ischemia | 637 |
| TAYLOR, R. B. Illness Onset And Levels Of Health Care Provided: A Study Of 213 Families | 548 | YOUNG, W. G. Jr. The Dininishing Mortality Of Coronary Artery Bypass Grafting For Myocardial Ischemia | 637 |
| TILSON, H. H. Statement On Byssinosis | 189 | ZUPKO, K. Practice Management: Doctor, Did You Mean What You Said | 494 |
| TURNBULL, C. D. Child Abuse Or Neglect Of Resident Live Births, Durham County, N.C. | 851 | Effective Records Management | 413 |
| High Risk Indicators Of Fetal And Neonatal Mortality In Durham County, N.C. | 472 | Getting The Most Out Of Your Collection Agency | 117 |
| WALKER, J. I. Alcohol Abuse: Diagnosis And Treatment . | 103 | Health Insurance Claims, Tips On Submitting | 347 |
| Office Psychotherapy: Methods And Indications For Referral | 405 | Importance Of Checking References | 729 |
| | | Management Consultants | 283 |
| | | The Patient As Partner | 655 |
| | | Paying Today Gives Patients A Pain | 569 |
| | | You The Telephone Manager | 47 |

INDEX

- Acetaminophen poisoning, 665
Alcohol abuse: diagnosis and treatment, 103
AMA House of Delegates — 1981 annual meeting report, 571
Anesthetic-related deaths: 1969-1979, 253
Apples of discord, 789
Beryllium lung disease, acute, 551
Book reviews: *Case Studies In Medical Ethics*, Robert Veatch, 350
The Healer's Art: The Doctor Through History, John Camp, 351
The Story of an Idea, E. Metchnikoff, 653
Byssinosis, 189
Camphor poisoning, 666
Carcinoembryonic antigen: its role as a marker in the management of cancer, 660
Child abuse or neglect of resident live births, Durham County, N.C., 851
Childhood Burkitt-type lymphoma, N.C. Memorial Hospital, 29
Clinical pharmacy practice, 496C
Contaminated herbal tea — potential source of chronic arsenic poisoning, 38
Coronary artery bypass grafting for myocardial ischemia, the diminishing mortality of, 637
Dietary fiber, the protective properties of, 467
Duke University Hospital, North Division dedicatory address, 715
Durham County, N.C. child abuse or neglect of resident live births in, 851
fetal and neonatal mortality in, 472
Fetal and neonatal mortality in Durham County, the high risk indicators of, 472
Friendship Force, the, 737
Health consequences in children: unemployment, 849
Hereditary deficiency of thyroxine-binding globulin, 475
Hymenoptera venom allergy — from the immunology research laboratory to clinical practice, 477
Hypersomnia in manic-depressive illness: a case of sleep apnea, 781
Illness onset and levels of health care provided: a study of 213 families, 548
Inflatable penile prosthesis in the treatment of organic impotence, 786
Joint patient care: which physician should be paid and for what, 335
Medical care in North Carolina jails, 554
Medical enterprise, the future of: perspectives on resource allocation in socialized markets, 265
Medical profession, "apples of discord" — a lecture reprinted, 789
Medicine in North Carolina, histories of books about, 288
Medicine in Old Salem: the Vierling House, 53
Message to house of delegates, president's, 481
Miliary tuberculosis with adult respiratory distress syndrome and leukemoid reaction, 709
Neonatal cerebral ultrasonography, 642
North Carolina legislature "a view from Raleigh," 370
North Carolina medical curiosities, 181, 278, 343, 408
North Carolina medical society, conjoint report to, 656
Office psychotherapy: methods and indications for referral, 405
Perinatal mortality, 195C
Peroneal palsy in patients with dementia, 711
Pharmacy and medicine, 496C, 497C
Physician, physician's spouse, physician's family — knowing oneself, marriage, family life (3 parts) 106, 176, 274
Physician's assistant — attachment to an English general practice, 485
Plasma exchange in TTP, intensive, 403
Practice management, 47, 117, 283, 347, 413, 494, 569, 655, 729
Prescription medication in the workplace — occupational absenteeism, accidents and performance when using non-psychoactive and psychoactive medication, 545
Primary care in local health department: the practitioners' view, 167
PSROs temporarily escape budget ax, 465
Psychotropics — the use of in the prison setting, 645
Pyeloureteral necrosis following renal transplantation, diagnosis and management of, 327
Raleigh academy of medicine, a definitive history, 260, 263
Rauwolfia serpentina revisited, 401
Rural health services, 419
Sleep disorders: normal sleep and diagnosis of sleep dysfunctions, 783, disorders of excessive somnolence, 854
Soul in left-handers, the: neurologic site visit, a, 331
Spontaneous brainstem hematoma, analysis of cases, 99
Tertiary obstetrical center, the new, 705

| | |
|---|---|
| Thyroid nodules, 713 | Tuberculosis management in western North Carolina, a sampling of, 170 |
| Toxic encounters of the dangerous kind, 51, 110, 181, 278, 338, 407, 489, 560, 648, 724, 796, 858 | Violence in North Carolina families referred to a child protection team, 35 |
| Toxic shock syndrome, five cases of, 173 | |

EDITORIALS

| | |
|---|---|
| About women and women in medicine (Felts) 344 | Meeting of the executive council at Mid-Pines (Sept. 26-27) (Felts) 859 |
| Alcohol and the heart (Felts) 280 | Midwinter meeting of the executive council of the North Carolina Medical Society (Rhodes) 280 |
| Authors, suggestions for, 42, 490 | On consensus (Felts) 45 |
| Clinical pharmacy — one North Carolina perspective (Shearer) 43 | Physician at risk, the — at home and abroad (Felts) 113 |
| Cloning committees (Felts) 802 | Price of civilization, the — or — your pH hangs in the balance (Felts) 567 |
| Coffea Arabica (Felts) 281 | Primary care in local health departments (Felts) 183 |
| Cost control: on keeping one's hand in (Felts) 115 | Report from West Germany (Felts) 725 |
| Down home — infectious disease (Felts) 802 | <i>Story of an Idea, The</i> , E. Metchnikoff's work by A. Besredka (Prichard) 653 |
| GMENAC and getting into medical school (Felts) 860 | Taking the cure (Felts) 184 |
| Haunted sleep (Felts) 801 | Thank you (Felts) 183 |
| Heliotropism (Felts) 409 | What is the monetary value of human life (Felts) 410 |
| John S. Rhodes, M.D. (Felts) 567 | Where is the horn of the unicorn (Felts) 344 |
| Medicine and the media (Felts) 653 | Why physician's assistants (Hamilton) 493 |
| Medicine, competition, federal trade commission and the post office (Felts) 726 | |
| Medicine in the workplace (Felts) 567 | |

IN MEMORIAM

| | | |
|---------------------------------|----------------------------------|-----------------------------------|
| BARTELS, KENNETH GARBER ... 142 | MEAD, HERVEY WINTHROP 213 | REECE, JOHN COCHRANE ... 440, 596 |
| DAVIDSON, ALAN 300 | PATE, MARION BUTLER JR. 440 | SYKES, RUFUS PRESTON 519 |

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